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ABSTRACT

This book provides an overview of vocational-technical education and training (VTET) in the 10 member countries of the Southeast Asian Ministers of Education Organisation (SAMEO). The book begins with an introduction explaining the objectives and methodology of the cooperative research project on which the study was based. Each of the 10 subsequent chapters detail the study findings regarding one of the following countries: Brunei Darussalam; Cambodia; Republic of Indonesia; Lao People's Democratic Republic; Malaysia; Union of Myanmar; Republic of Philippines; Singapore; Kingdom of Thailand; and The Socialist Republic of Viet Nam. All chapters place special emphasis on the country's VTET accreditation and certification systems. Other topics addressed in the country reports include the following: geography and economy; structure of the education and training system; occupational skills maps and skills standards; types and levels of qualification; quality assurance; apprentice scheme; nonformal education;

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women's education; and employment and unemployment. The final chapter outlines a framework for comparing SAMEO member countries' VTET systems and identifies differences and similarities among their VTET systems. Forty-seven tables/figures are included. Appended are the following: list of country researchers; 208-item annotated bibliography; and overview of Australia's VTET system that includes 22 tables/figures and 16 references. (MN)

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TRAINING SYSTEMS in South-East Asia

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REBECCA POLESTICO

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TRAINING SYSTEMS IN SOUTH-EAST ASIA

VTET accreditation and certification systems in SEAMEO member countries (with an appendix in Australia)

Romulita Alto, Irene Isaacs,
Brian Knight & Rebecca Polestico

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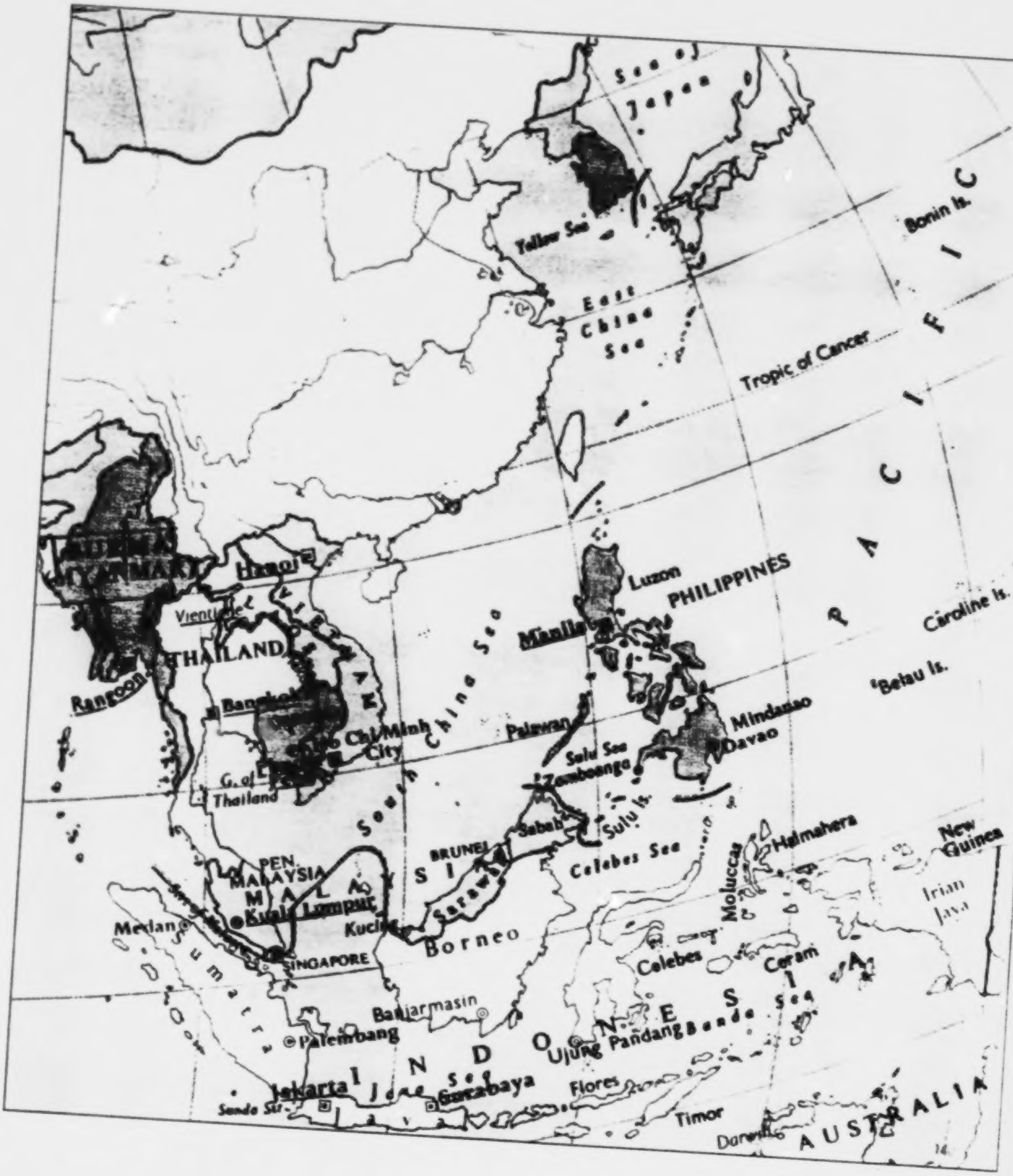
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Foreword

SEAMEO member countries:

Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam
assisted by the Colombo Plan Staff College (Manila, Philippines) and the National Centre for Vocational Education Research Ltd (Adelaide, Australia).

I AM PROUD TO PRESENT this book, *Training systems in South-east Asia*, which provides an overview of the vocational and technical education and training systems in the ten member countries of the South-east Asian Ministers of Education Organisation (SEAMEO). The publication is the outcome of a co-operative research project involving the ten SEAMEO countries and the SEAMEO VOCTECH Centre, with support from two partner agencies.

The countries in the ASEAN region are currently enduring a period of economic crisis. An important factor in their ability to recover from this crisis is the capacity of their vocational and technical education and training (VTET) systems to adapt to changing economic circumstances and to meet changing workforce demands.

This book documents, for the first time under a single cover, the accreditation and certification systems for VTET programmes and VTET providers currently in operation in the SEAMEO member countries. It includes a supplement on the Australian VTET system, which has many features not as yet found in the country systems among the SEAMEO group.

I would like to thank all member countries for supporting the project, firstly by sending a representative to the initial meeting of experts which planned the publication and designed the collection instrument, and secondly, by providing the staffing resources needed to collect and collate the information required under the agreed pro-forma. I am very aware that the expert group's request for information, and language difficulties in some countries, have imposed a burden. However, I am in no doubt that the quality of the final product makes all the effort worthwhile.

An important factor in the success of the project has been the ongoing support from Brunei Darussalam, the host government, which has pledged its fullest support to the SEAMEO VOCTECH Centre. The progress and achievements of the Centre have been accomplished with the support provided by the host government, complemented by the dedication and commitment of staff, partners, Governing Board members and alumni.

I would particularly like to extend my thanks to the Colombo Plan Staff College, Manila, the Technical Education Skills Development Authority in Manila and the National Centre for Vocational Education Research Ltd (NCVER) in Adelaide, for releasing expert staff members to collect, collate and write up the information from the SEAMEO member countries.

Special thanks must also go to Mr Chris Robinson, Managing Director of NCVER, for funding and organising the publication and distribution of the book, and to staff and management of the SEAMEO VOCTECH Centre for the overall success of the project.

I commend this work to you.

Haji Abdul Ghani bin Haji Omar
Director, SEAMEO VOCTECH Regional Centre
Brunei Darussalam

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Abbreviations

ASEAN	Association of South-East Asian Nations
BDTVEC	Brunei Darussalam Technical and Vocational Education Council, Brunei
BTEC	Business and Technology Education Council, Brunei
CGLI	City and Guilds of London Institute
CITT	Construction Industry Training Institute, Singapore
CSC	Civil Service Commission, Philippines
DECS	Department of Education, Culture and Sports, Philippines
DHTVET	Department of Higher Technical and Vocational Education and Training, Cambodia
DOL	Department of Labour, Cambodia
DOVE	Department of Vocational Education, Thailand
DSD	Department of Skill Development, Thailand
DTAVE	Department of Technical, Agricultural and Vocational Education, Myanmar
DTVE	Directorate of Technical and Vocational Education, Indonesia
EAGA	East ASEAN Growth Area
HRDC	Human Resources Development Council, Malaysia
IHLs	Private Institutes of Higher Learning, Malaysia
ILO	International Labour Organisation
IPT	Institute of Productivity Training, Singapore
ITB	Brunei Institute of Technology, Brunei
ITE	Institute of Technical Education, Singapore
ITI	Industrial Training Institutes, Malaysia
KMIT	King Mongkut's Institute of Technology, Thailand
LAN	*Lembaga Akreditasi Negara* (The National Accreditation Board, Malaysia)
LAO PDR	Lao People's Democratic Republic
LCCI	London Chamber of Commerce Institute
LESCO	Lao Employment Services Company, Lao PDR
MARD	Ministry of Agriculture and Rural Development, Viet Nam
MED	Ministry of Entrepreneur Development, Malaysia
MOE	Ministry of Education, Malaysia and Thailand
MoEC	Ministry of Education and Culture, Indonesia
MOET	Ministry of Education and Training, Viet Nam
MOEYS	Ministry of Education Youth and Sports, Cambodia

MOH	Ministry of Health, Viet Nam
MOHR	Ministry of Human Resources, Malaysia
MOI	Ministry of Industry, Viet Nam
MOI	Ministry of Interior, Thailand
MOLISA	Ministry of Labour, Invalids and Social Affairs, Viet Nam
MOLSW	Ministry of Labour and Social Welfare, Thailand
MoM	Ministry of Manpower, Indonesia
MOSALVA	Ministry of Social Affairs, Labour and Veterans' Affairs, Cambodia
MUA	Ministry of University Affairs, Thailand
MYS	Ministry of Youth and Sports, Malaysia
NBVTC	National Board of Vocational Training Coordination, Thailand
NCVER	National Centre for Vocational Education Research Ltd
NFE	Department of Non-Formal Education, Lao PDR
NMA	National Maritime Academy, Singapore
NMYC	National Manpower and Youth Council, Philippines
NOSS	National Occupational Skills Standards
NVTC	National Vocational Training Council, Malaysia
NYP	Nanyang Polytechnic, Singapore
OTS	Occupational Training Standards
OTVET	Office of Technical and Vocational Education and Training, Cambodia
PSAI	Port of Singapore Authority Institute, Singapore
RIT	Rajamangala Institute of Technology, Thailand
RSA	Royal Society of Arts
SEAMEO	Southeast Asian Ministers of Education Organisation
SEAMEO VOCTECH	Southeast Asian Ministers of Education Organisation Regional Centre for Vocational and Technical Education
SHATEC	Singapore Hotel and Tourism Education Centre, Singapore
SMK	*Sekolah Menengah Kejuruan* (Senior Technical and Vocational Schools, Indonesia)
SVTCs	Small Vocational Training Centres, Indonesia
TESDA	Technical Education and Skills Development Authority, Philippines
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Education, Scientific and Cultural Organisation
VET	Vocational Education and Training
VTCs	Vocational Training Centres
VTE	Vocational and Technical Education
VTET	Vocational and Technical Education and Training

Introduction

Background to the study

1

The context

IN 1997 the Governing Board of the South-east Asian Ministers of Education Organisation Regional Centre for Vocational and Technical Education (SEAMEO VOCTECH) approved a research project to document the accreditation and certification systems in vocational and technical education and training (VTET[1]) in SEAMEO member countries. This book is the product of the governing board's resolution.

Why has this book been prepared? Clearly, effective planning and development at regional, national and local levels all depend on accurate, up-to-date information, and there is considerable potential for member countries to learn and benefit from each other's VTET systems.

It is well known that the regional economy in South-east Asia is changing rapidly, creating new and different demands for worker skills and qualifications. It is important to know what is the capacity of VTET systems in the region to meet existing demands and adapt to new demands. The project is also very timely, because of the rapidly changing profile of qualifications needed by workers in the region, and because of the economic stresses which many countries in the region are likely to confront in the next few years.

When this study began, the Asia-Pacific region was entering a period of economic uncertainty. As we near publication, there are signs of an economic up-turn in the region, with both output and investment slowly on the increase. The capacity of VTET systems to adapt and endure during times of crisis and change will affect the longer-term prosperity of all countries in the region. Moreover, timely and accurate research is an important element in policy-making and planning processes, one which can help avoid scarce resources being expended on VTET programmes which are no longer needed or are in decline.

VTET accreditation and certification systems are complex and diverse. They are an important component of systems for ensuring that each country's need for a skilled and qualified workforce is met through the availability of appropriate curriculum and training programmes and relevant qualifications. The project has provided a unique opportunity to document in a detailed, accurate and factual way what accreditation and certification systems are in operation in the SEAMEO member countries.

The project to document the accreditation and certification systems began in earnest in April 1998 with a meeting of expert representatives from the SEAMEO member countries (except Myanmar, which had only recently joined the SEAMEO group) and resource persons from the SEAMEO Regional Centre for Vocational and Technical Education (SEAMEO VOCTECH) and the National Centre for Vocational Education Research Ltd (NCVER) in Australia.

The purpose of the experts' meeting was to:

- agree on the scope of the project, including definitions of terms
- identify specific topics and issues which needed to be addressed by the project

- develop an outline for the publication ultimately required as the project output
- develop and agree on an appropriate methodology for collecting and collating information
- design the collection instrument
- agree on a process for data validation to occur before final editing and publication

The Association of South-East Asian Nations (ASEAN)

The focus of this study is on the ten member countries of the Association of South-East Asian Nations (ASEAN), which was founded in 1967 towards the end of a period of turmoil in the region. The founding members were Indonesia, Malaysia, the Philippines, Singapore and Thailand. The objective of the founding members was to promote peace, stability, progress and prosperity in the whole region and to avoid the waste of scarce resources occasioned by territorial disputes and distrust between neighbours.

The founding members spelt out the objectives of ASEAN as follows:

1 To accelerate the economic growth, social progress and cultural development in the region through joint endeavours in the spirit of equality and partnership in order to strengthen the foundation for a prosperous and peaceful community of South-east Asian nations.

2 To promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter.

3 To promote active collaboration and mutual assistance on matters of common interest in the economic, social, cultural, technical, scientific and administrative fields.

However, it was more than 20 years before all the countries of South-east Asia became full members of ASEAN. During the late 1960s and 1970s Cambodia, Lao PDR and South Vietnam attended some ASEAN meetings as observers. Burma (now Myanmar) showed little interest because of a desire to preserve her neutrality, while North Viet Nam at that time was at war with South Viet Nam.

The sixth member of ASEAN was Brunei Darussalam, which joined almost immediately after gaining independence from the United Kingdom in 1984. A further, important step forward was made in 1995 when Viet Nam, now reunited under a single government, joined as the seventh member. In 1997, Lao PDR and Myanmar were admitted as full members after having held observer status for some years. However, ASEAN ministers were sufficiently concerned by the use of force in Cambodia to defer that country's admission, and it was not until December 1998 that the ASEAN leaders agreed that the admission of Cambodia should proceed.

All member countries have undertaken to fulfil the obligations of membership and the commitments embodied in the Treaty of Amity and Co-operation in South-east Asia and under the various ASEAN agreements. Since its foundation ASEAN has progressively expanded its membership and its role. Other countries, Australia for example, attend meetings of ASEAN as observers.

In the economic sphere, membership of ASEAN includes, among other things, a commitment to promoting labour mobility in the region. Occupational skill standards have been seen as an important mechanism for ensuring that vocational and technical education and training undertaken in one member country will be relevant and valuable in another. Consequently, the role of occupational skill standards in accreditation and certification is one of the major topics considered in the present study.

The South-East Asian Ministers of Education Organisation

Closely related to ASEAN is the organisation known as SEAMEO, the South-East Asian Ministers of Education Organisation. SEAMEO was founded on 30 November 1965 for the purpose of promoting regional co-operation among South-east Asian nations through education, science and culture. It now has ten member countries, that is, the members of ASEAN, and six associate members, namely Australia, Canada, France, Germany, the United Kingdom and the United States of America.

SEAMEO has established 11 regional centres focussing on specific areas of importance to the member countries. The centres established to date are:

- SEAMEO BIOTROP, the Regional Centre for Tropical Biology
- SEAMEO INNOTECH, the Regional Centre for Educational Innovation and Technology
- SEAMEO RECSAM, the Regional Centre for Education and Science in Mathematics
- SEAMEO RELC, the Regional Languages Centre
- SEAMEO RETRAC, the Regional Training Centre

- SEAMEO RIHED, the Regional Centre for Higher Education and Development
- SEAMEO OLEC, the Regional Open Learning Centre
- SEAMEO SEARCA, the Regional Centre for Graduate Study and Research in Agriculture
- SEAMEO SPAFA, the Regional Centre for Archaeology and Fine Arts
- SEAMEO TROPMED, the Tropical Medicine and Public Health Network
- SEAMEO VOCTECH, the Regional Centre for Vocational and Technical Education

Each regional centre is supported by a host government. The host country for the Regional Centre for Vocational and Technical Education is Brunei Darussalam.

The activities of the SEAMEO VOCTECH Centre

> *… focus on addressing national, regional and local challenges in developing the competencies required to achieve and implement economic, industrial, business and labour market goals through vocational and technical education and training.*
>
> (from <http://www.seameo.org/Centers/VOCTECH.html>, 24 Sept 1999)

These goals are addressed through a range of programmes and activities, including identification of key areas of training, organisation and conduct of training programmes, conferences, workshops and seminars, design and conduct of research projects (such as the present study), and the provision of information services, consultancy services and facilities.

Details of the study

Objectives

No consolidated or detailed mapping of the SEAMEO member countries' accreditation and certification systems has previously been undertaken. However, countries can improve their own systems by identifying strengths and weaknesses in other systems in operation throughout the region. And once published, the information becomes a resource for agencies outside the VTET system, for example, other government agencies and companies.

The study also provides an opportunity to assess the capacity of accreditation and certification systems to adapt to rapidly changing needs. Projects of this kind demonstrate the commitment of member countries to regional co-operation in the interests of mutual benefit.

The basic objective is a consolidated report which maps the existing systems for accreditation and certification and includes any major directions and proposed changes. The report has a section for each member country, describing its accreditation and certification systems, as well as naming the major institutions and stakeholders. Some comparisons and contrasts among the member-country accreditation and certification systems are included but this is not a major objective of the study. Wherever possible the report includes pictorial and diagrammatic presentation of more complex information to ensure that it is accessible to readers.

VTET systems are generally not static. The study must capture existing practices but also needs to report on changes and developments. It is important for readers to appreciate that the project is about collecting and collating information, but it is not an evaluation. However, the authors have considered it desirable to document acknowledged strengths and weaknesses of member-country systems in the published report.

The report has sought to provide information in a number of specific areas, although not all of these are relevant to all member countries:

- Where does the authority to accredit curriculum and qualifications rest in each country, for example, national government, state/local government, or individual colleges?
- If accreditation can occur at a number of different levels, what courses and qualifications are typically accredited at each level?
- Who issues the formal qualifications to students on completion of a course, and what status do the formal qualifications have?
- When eligibility for qualifications is being determined, are there any arrangements for recognition of prior learning or status for subjects completed elsewhere?
- What qualifications issued in member countries are recognised in other member countries?
- How do the systems adapt to changing economic conditions and workforce requirements, and how quickly they are able to adapt to change?
- Do member countries undertake any forecasting of workforce requirements, and if so, is this taken into account in VTET planning?
- What role do industry and other non-government entities have in the accreditation and certification system in each country?

Definition of terms

Clarification of the terms is very important in any research project spanning countries which use different terminology and acronyms. The three most important terms used in the present publication were defined by the experts' group as follows:

Accreditation – the process by which the curriculum (the specification of content, teaching methodology, assessment standards and other criteria) is officially endorsed and approved.

Certification – the process by which recognised qualifications (usually qualifications resulting from accredited VTET programmes) are issued to students who have successfully completed the associated VTET programme.

VTET – education or training which has a specific vocational focus, but excluding general education undertaken in secondary school or in higher education institutions. In some member countries VTET is known as TVET (technical and vocational education and training). The terms VTET and TVET are equivalent.

Methodology

From the outset it was recognised that a quality result would depend on careful control of all stages of the project, that is, the design, collection, collation and reporting processes. Carefully designed collection instruments and pro-formas were essential if complete and accurate information were to be obtained for each member country.

In addition, the research design needed to take account of and accommodate the variation in accreditation and certification systems in member countries.

The researchers in the member countries needed to clearly understand the objectives of the project and the purpose of the instruments and pro-formas. They also needed to have good local knowledge, to ensure that all aspects of their country's accreditation and certification systems were covered.

In order to achieve these goals the following methodology was adopted:

- An initial meeting of experts from member countries, as previously described.

- Circulation of the agreed pro-forma to the member countries, with a formal request for its completion and submission to SEAMEO VOCTECH.
- Initial drafting of the publication using the information submitted by member countries, supplemented by information from other published sources.
- Return of the draft to each member country for comment and validation.
- Final synthesis and redrafting by the writing team.

Scope and limitations of the study

The experts meeting agreed that the focus of the study should be a number of specific aspects of the member-countries' VTET systems. These included:

- Relevant background information about the country, including population and demographic factors, geography, the economy and major industries.
- An overview of the education and training system, including an overview of the VTET system, articulation between schooling, higher education and VTET, opportunities for retraining and adult entry to training, the role of skills maps and skills standards, and the major organisations involved in VTET, and their roles.
- The VTET certification system, including the certification authorities, the types and levels of qualifications, the standards for certification, and quality assurance processes.
- The system for accrediting VTET programmes, including types of accreditation, the accreditation process, quality assurance, accreditation authorities, criteria for accreditation, advantages of accreditation, new initiatives and developments, and the process for establishing a new VTET programme.
- Where it is separate from accreditation of VTET programmes, details of the system for accrediting VTET providers, including both government and non-government providers.
- The role of apprenticeships and related programmes.
- Current developments and initiatives which may affect the accreditation and certification system.

The primary purpose of the study is to document the VTET accreditation and certification systems as they currently stand and any changes or developments currently under way or proposed for the future. Evaluation of the VTET systems is not an objective of this study, although the authors have included some evaluative comments from third-party sources where these appear to be particularly relevant to the major themes of the study.

Sources

General notes

Most of the information contained in this volume has been supplied by the SEAMEO member countries. However, the project team has also been assisted by an extensive body of published material which describes or evaluates the education and training systems, policies and planning in the various countries (appendix 2).

The list of works published to date is impressive. However, there are two serious limitations:

- Much of the information is already out of date, as training systems in a number of South-east Asian countries have changed quite significantly during the 1990s.
- None of the studies encompasses the ten member countries of the SEAMEO group, viewing each from a common standpoint and set of objectives.

The authors expect that the present study will go some way towards addressing these limitations.

It should be noted that in the mid-1990s the United Nations Educational, Scientific and Cultural Organization (UNESCO) published a series of national profiles in technical and vocational education in Asia and the Pacific. A majority of the SEAMEO member countries were the subject of these profiles, specifically, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam.

Organisation of the listing of sources in appendix 2

In appendix 2, sources covering more than one SEAMEO member country are listed first. The remainder of appendix 2 then provides a literature review for the national education systems of Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar (formerly Burma), Philippines, Singapore, Thailand and Viet Nam.

Entries with a TD (TAFE Directory) number or an APSDIN (Asia Pacific Skills Development Information Network) number are available through the National Vocational Education and Training Clearinghouse, National Centre for Vocational Education Research Ltd (NCVER) in Australia. Other information has been collected from a variety of sources and access points will

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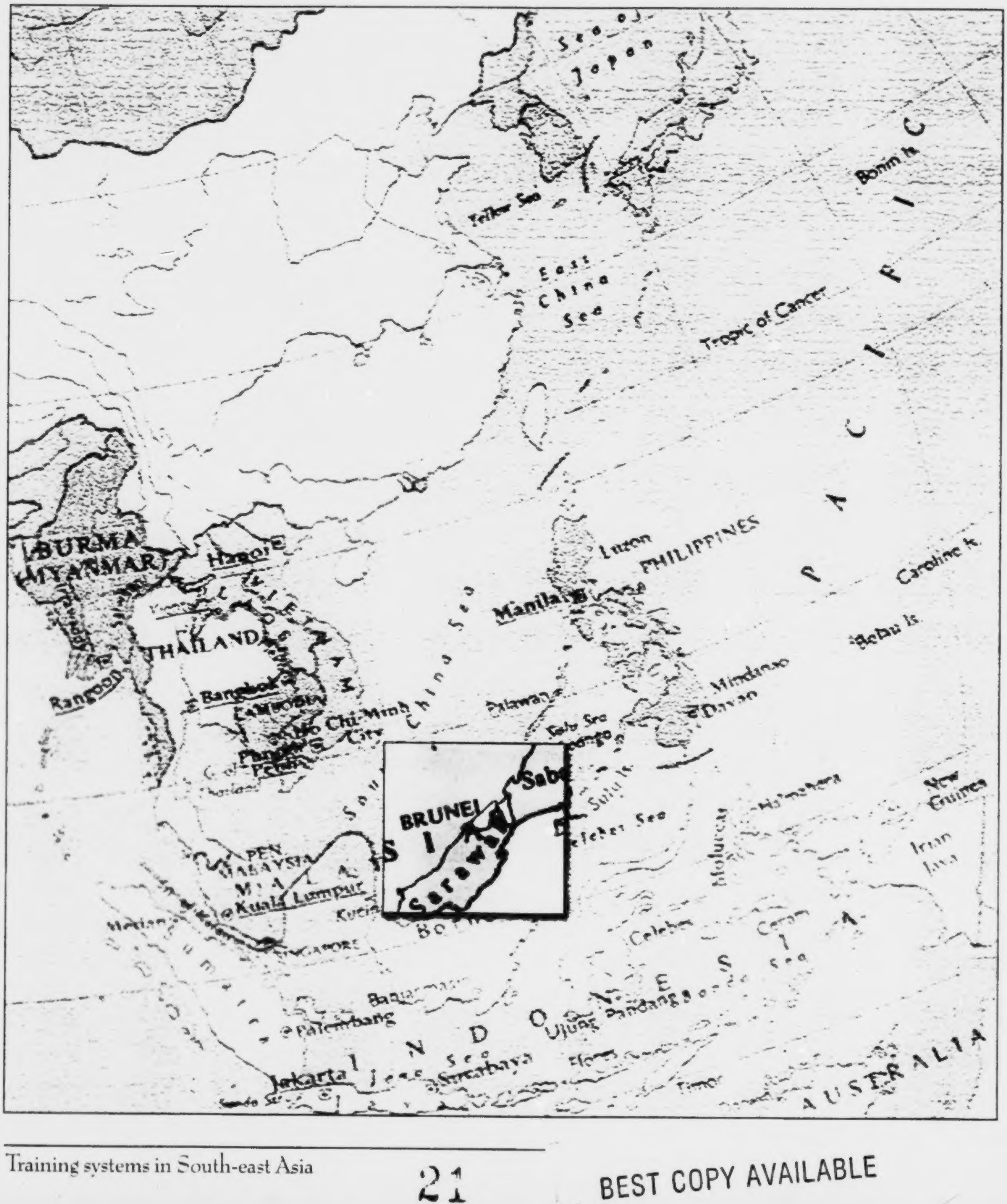
need to be established. There is a section for each country covering printed and internet documents.

There will also be International Labor Organisation, UNEVOC and UNESCO documents which are relevant to this study. A few have been picked out which deal with the general level of educational systems but it must be noted that others focus on aspects of the national systems and have not been included in this bibliography. Beyond this, every effort has been made to ensure that the listing is comprehensive and up to date.

Note

1 The acronym VTET is sometimes shortened to VTE (vocational and technical education), and is synonymous with TVET (technical and vocational education and training) and VET (vocational education and training). All four acronyms are used in countries in the region but are essentially equivalent.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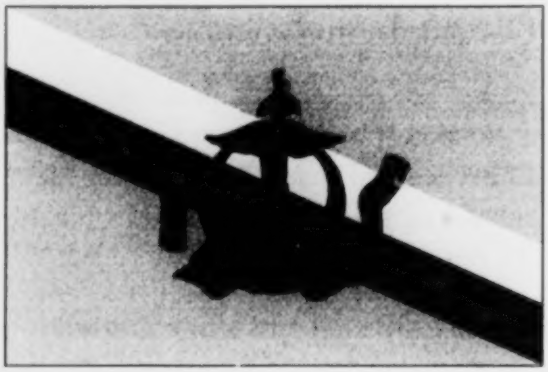
Brunei Darussalam



Introduction

Brief history

BRUNEI DARUSSALAM (also known as Negara Brunei Darussalam—abode of peace) is a small Malay Islamic monarchy situated on the north-west tip of the island of Borneo. According to historic accounts, 6th century Chinese referred to Brunei in many names amongst them were 'Puni' or 'Poli'. Europeans were also said to interchange its modern name between 'Brunai' and 'Borneo' to mean the state and the island. Later documents and agreements separated the two names to their current usage.

Brunei Darussalam is one of the oldest sovereign states in South-east Asia. It was converted to Islam some 600 years ago when Awang Alak Betatar, the ruler then, became a Muslim and changed his name to Sultan Muhammad Shah in the early 1630s. Thus was born the Sultanate of Brunei and this brought about the changes and adaptations to the ruling traditions to include aspects of Islamic teachings, which have continued to the present day. During the 16th century, Brunei's territory extended to the whole of Borneo and as far as the Philippines and the islands off the coast of Singapore.

With the rise of European activity in the region there was a sharp decline in Brunei's power and influence during the 17th and 18th centuries, and Brunei became a British protectorate in 1888. After almost a century of British rule Brunei Darussalam gained its full independence in 1984.

Geography and economy

Brunei Darussalam lies about 440 kilometres north of the equator on the island of Borneo. It has a land area of about 5765 square kilometres. It faces the South China Sea and shares borders with Malaysia. Brunei has an equatorial tropical climate which is characterised by hot, humid and wet conditions throughout the year.

Brunei is divided into four administrative districts named after the principal rivers of the country. The capital, Bandar Seri Begawan, is located in the north-east. Although the official language is Bahasa Melayu (Malay), English is widely used. The official religion is Islam.

In mid-1996, the population of Brunei Darussalam was estimated to be at 305 100. Of that figure, 161 500 were males and 143 600 were females. The Malays formed the majority of the population (67%). The other major ethnic community is the Chinese (15%) and other minority races make up about 12 per cent of the population.

Brunei Darussalam's economy is dominated by the oil and liquefied natural gas industries. There are other industries, albeit at a much smaller scale compared with the oil and gas industries. These are timber, fishing, pepper and agriculture.

Although oil and gas are the main drivers for growth, the country has also stepped up its efforts to diversify its economy so as not to depend on any single resource. It is encouraging small- and medium-sized enterprises to expand and establish themselves. These are expected to form the base of the economic build-up. Brunei Darussalam is also undergoing a certain amount of economic transformation, in that some public sectors are now privatised, thereby reducing the government's role in the economic activities relative to private enterprises.

As a part of the ongoing economic diversification, the country is now working hard to realise its desire to become the Service Hub for Trade and Tourism (SHuTT) for the east ASEAN region by the year 2003. It also aims to develop as the bridge to the regional and global markets for the East ASEAN Growth Area (EAGA) member countries. It wants to be the gateway to EAGA markets for the rest of the world. The EAGA comprises parts of Indonesia's Kalimantan and Sulawasi, parts of the southern Philippines, and the Malaysian states of Sabah and Sarawak.

Overview of the education and training[1] systems

Primary and secondary education

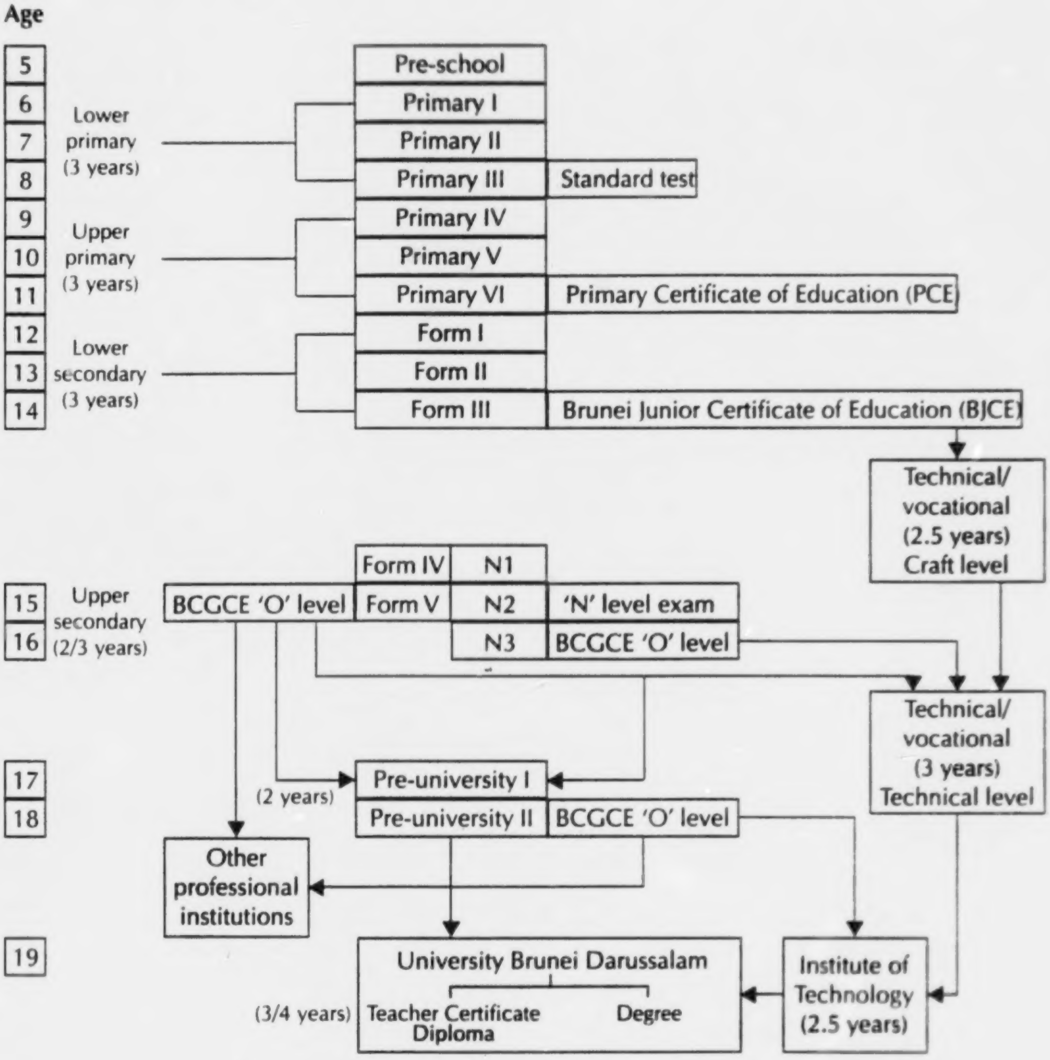
The first vernacular Malay school was established in 1912 in Brunei Town, now known as Bandar Seri Begawan, the capital. By 1918 similar schools were opened in other districts. These early schools were mainly for boys between the ages of seven and fourteen. The curriculum was limited. It included reading and writing (Arabic and Romanised script), composition, arithmetic, hygiene, geography, history, drawing and physical education. Gardening and basketry were later introduced at some schools. In 1930, girls were permitted to enrol in the Malay schools.

The Chinese community established its own school in 1916 and the first non-government English-medium school was established in 1931 in Seria, in the Belait district.

The period following the Second World War and the Japanese occupation saw much reconstruction in Brunei. This was attended by the country's rapidly developing oil and gas industry and growing civil service.

In 1951 the first government English school was established in Brunei Town. A year later, another school was opened in Kuala Belait. In less than three years, the government was able to introduce English-medium secondary education in the country. On the other hand, Malay-medium secondary education was only introduced in 1966.

Figure 1: Structure of the school system


Age
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Lower primary (3 years)
Upper primary (3 years)
Lower secondary (3 years)
Upper secondary (2/3 years)
Pre-school
Primary I
Primary II
Primary III
Standard test
Primary IV
Primary V
Primary VI
Primary Certificate of Education (PCE)
Form I
Form II
Form III
Brunei Junior Certificate of Education (BJCE)
Technical/ vocational (2.5 years) Craft level
Form IV
N1
BCGCE 'O' level
Form V
N2
'N' level exam
N3
BCGCE 'O' level
Technical/ vocational (3 years) Technical level
Pre-university I
(2 years)
Pre-university II
BCGCE 'O' level
Other professional institutions
University Brunei Darussalam
(3/4 years)
Teacher Certificate Diploma
Degree
Institute of Technology (2.5 years)

The education system developed steadily until independence in 1984, after which there was rapid expansion, with the construction of new schools and upgrading of teacher training. A range of institutions operating at upper secondary, post-secondary and higher education levels has been established since 1984. These included the Institut Teknologi Brunei/Brunei Institute of Technology (ITB) and the Universiti Brunei Darussalam/University of Brunei Darussalam (UBD).

The present education system (figure 1) was adopted in 1985 and subsequently 'modified' accordingly. It is basically a bilingual system (dwibahasa). The

Malay and English languages are used as the media of instruction in schools. The first three years of primary education are in Malay, with English as a separate subject. From Primary IV onwards, core subjects such as geography, history, mathematics, science and English are conducted entirely in English. Other subjects such as Malay language and literature, Islamic religious knowledge, physical education, arts, MIB (see below) and civics are taught in Malay.

Generally, the administration and curriculum of the school system was influenced by the British system, and the socio-economic climate of education has also been determined by the combination of factors known as the MIB ideology (Melayu Islam Beraja—Malay Islamic Monarchy).

Most education is under the control of the Ministry of Education which is also responsible for nearly all institutions of primary and secondary education, technical education and higher education. Curriculum is developed centrally by the Curriculum Development Department of the Ministry of Education.

The vocational and technical education and training system

To date there are seven institutions in Brunei Darussalam offering VTET programmes and qualifications. All of them are established as well as controlled by the government. They are also under the supervision of the Ministry of Education with the exception of Sinaut Agricultural Training Centre, which is supervised by the Ministry of Industry and Primary Resources, and the Brunei Arts and Handicraft Training Centre which is under the supervision of the Ministry of Culture, Youth and Sports.

Until a few years ago, there was an almost total reliance on British examining bodies, such as the Business and Technology Education Council (BTEC) and City and Guilds of London Institute (CGLI), for the certification of technical and vocational programmes. Technician and craft courses are generally offered in collaboration with United Kingdom accrediting bodies such as the BTEC, CGLI, the Royal Society of Arts (RSA), Pitmans Examinations Institute and the London Chamber of Commerce Institute (LCCI). However, with the establishment of the Brunei Darussalam Technical and Vocational Education Council (BDTVEC), government technical and vocational institutions are now offering BDTVEC validated programmes and therefore the UK-validated programmes, which are directly replaced by Brunei's counterpart, are being gradually phased out or discontinued.

Secondary-level programmes such as trade and craft courses are offered by several technical colleges such as the Sultan Saiful Rijal Technical College, Jefri Bolkiah College of Engineering, Nakhoda Ragam Vocational School, Sultan Bolkiah Vocational School and the Mechanical Training Centre. So too are most post-secondary-level programmes except the Mechanical Training Centre and the Brunei Arts and Handicraft Training Centre. Courses at this level usually are of two-year duration and they lead to the award of the BDTVEC National Vocational Certificate, National Trade Certificate Levels 1, 2 and 3. As has been mentioned earlier the BTEC, CGLI, RSA, etc. awards are being replaced gradually and at the time of writing these are understood to be no longer on offer.

The Mechanical Training Centre offers courses which are open to students who have completed lower secondary school (Form III) and who have passed the lower secondary assessment (PMB) formerly known as the Brunei Junior Certificate of Education. It also caters for in-service training for government departments. The Brunei Arts and Handicraft Training Centre is a small specialised institution which trains students in the manufacture of traditional handicrafts such as silver, brass and bronzeware, basketware and cloth-weaving called *Jong Sarat*.

The post-secondary-level programmes are essentially technical-level courses that require Brunei-Cambridge 'O' level qualifications for entry, comprising at least four passes at credit level, with preference given to subjects relevant to the proposed courses. These courses are taken over two years full-time or three years part-time. Courses offered at this level usually lead to the BDTVEC National Certificate or Diploma.

The Sinaut Agricultural Training Centre offers a three-and-a-half year technician-level programme in agriculture or agricultural sciences leading to the award of the Brunei National Diploma in Agricultural Engineering.

In addition to offering the technician and trade-level courses, these institutions also offer ad hoc courses in response to training needs of the public and private sectors.

The Institut Teknologi Brunei (ITB) offers two-and-a-half year full-time courses leading to the examinations for the BTEC Higher National Diploma. These programmes are validated and awarded by the BTEC, United Kingdom. Programmes currently on offer are business and finance, computer studies, and electrical and electronic engineering with a six-month industrial attachment. Admission requirements to such courses are the same as those set for similar BTEC courses elsewhere. These are at least a pass at Brunei-Cambridge 'A' level and several 'O' levels. A credit in the Malay language (for candidates from secondary school) or a credit at the PMB level is also a requirement for entry on the top of specific requirements for the specific programmes.

Occupational skills maps and skills standards

Attached are the process of designing programmes for craft courses which are guided by the Dacum (developing a curriculum) process. The skills and assessment methods and monitoring are looked into by the committee concerned to ensure its national standard and requirements as well as needs of the country.

Proposal on common skills for technician programmes

It has been decided by the council that common skills should now become an integral part of all BDTVEC courses. To obtain an award a student must, from now on, gain a pass in common skills in addition to the other units required on the course.

BDTVEC would be adopting five common skill areas for technical and vocational studies. They, and the general aim for each, are as follows: 10

- developing personal performance
- working with others
- communicating
- managing tasks and problems
- applying numeracy, design and information technology skills

The proposed five common skills to be adopted by the BDTVEC are essential for all levels of vocational and technical studies. The BDTVEC envisages an approach to common skills which reflects what they aim to achieve, *the development in learners of skills which can be independently applied in a wide range of life and work situations.* It is important, therefore, that the learning experience goes well beyond the simple assimilation and reproduction of facts and knowledge and that assessment goes well beyond traditional written knowledge tests.

Strategies for teaching and learning should be process-based and focus on learning by doing and on the transfer and integration of skills which reflect the overall nature of the vocation.

The BDTVE Council believes that this can best be achieved by a learner-centred approach in which the learner has an appropriate degree of influence over the pace and direction of his/her own progress. The Council also believes that there are a variety of ways in which this might be achieved.

Major VTET organisations, and their roles

In Brunei Darussalam, there are essentially two organisations that have direct bearings on VTET. The BDTVEC is mainly involved in the certification and accreditation as well as validation of VTET programmes. The Brunei Darussalam National Accreditation Council 'accredits' such programmes, mainly for the purpose of appointment or employment with the government.

There are also other organisations that are currently involved in VTET. However, their functions are much too specified and more often than not are designed in such a way as to meet their own specific needs or schemes.

Brunei Darussalam National Accreditation Council

This council was established in 1990 with the consent of His Majesty the Sultan and Yang Di-Pertuan of Negara Brunei Darussalam. As a sole national accrediting agency in the country, it is charged with the responsibility for the assessment and evaluation of qualifications mainly for the purpose of employment. In carrying out its duties, the council is assisted by seven sub-committees, each responsible for one field of discipline. These fields are accountancy and management; medicine; engineering and architecture; education; environmental science; communication; and Islamic religious studies. Its Secretariat, which is headed by the special duties officer who serves as the secretary to the council, provides administrative support and services including preparation of working papers, undertaking research works, organising meetings and dealing with all correspondence.

The council is committed to providing excellent professional services towards ensuring the quality and standard of educational credentials and provisions, as set and required by the government for the purpose of achieving a quality workforce and services in the country, in relation to the public service and professional requirements, including licensing regulations.

In general, the council acts as a reference body by providing assistance and advice concerning accreditation and recognition of qualifications and institutions not only to various government departments and ministries, but also to other parties including private sectors and individuals.

Brunei Darussalam Technical and Vocational Education Council (BDTVEC)

The Brunei Darussalam Technical and Vocational Education Council (BDTVEC) was established in May 1991, and is now the Technical and Vocational Education and Examination body in Brunei Darussalam. This was followed by the establishment of the Department of Technical Education in January 1993. These developments were among planned changes in the structure of the education system and were made to allow for flexible and effective provision of technical and vocational education in the country.

While realising the need to support the economic growth and development of Brunei Darussalam through its National Development Plan, the Brunei Government gave considerable priority to the improvement and expansion of technical and vocational education and training in order to respond to the economic challenges of the future. The plan also placed considerable importance on the need for more co-operation with industry and commerce to develop programmes for skills upgrading. This was stressed by His Majesty the Sultan and Yang Di Pertuan of Brunei Darussalam. His Majesty said in his speech in conjunction with the 1997 National Day:

> *Hence the private sector as the agent of development must strive harder in playing an important role. It should also focus on the development of human resources so as to produce competent and dedicated manpower.*
> (*Borneo Bulletin*: Monday 24 February, 1997)

For a number of years, technical and vocational qualifications had been provided by foreign accrediting bodies such as the Business and Technician Education Council (BTEC) and the City and Guilds (C&G) of London Institute. In view of the rapid growth in population and local economic and industrial developments, and to respond to the demand for varied and quality technical and vocational education and training locally, the BDTVEC assumed its main principal responsibility to provide Brunei citizens with the employment-related technical and vocational qualifications they need to develop competence in their choice of career or special interest.

The first programme submissions for the council awards were introduced in August 1992, and the process of full take-over from foreign awards has been successful for trade and national diploma courses. The council awards include engineering, construction, science, agriculture, fishery, forestry, food and beverage, tourism, fashion and design.

Certification system

The basic model

The basic model for certification in both education and VTET is an examination-based system derived from British models. In craft and trade areas assessment includes the required skills and competencies, and involves practical as well as written tests.

Certification authorities

The major certification authority is the Brunei Darussalam Technical and Vocational Education Council (BDTVEC).

It is the intention of the council to ensure that its programmes are designed and developed to ensure the success of students in their careers. To this end , the council will work towards providing acceptable national standards whilst at the same time serving the needs of industry, commerce, government and professional organisations in Brunei Darussalam. In this way, the council will continue to be a main contributor to the development of employment-related education to the mutual benefit of students, employers and the nation.

The roles and responsibilities of BDTVE Council are:

- To create and formulate the policies and framework for technical and vocational education at the national level. The council also makes comprehensive plans and continuously reviews the development of a unified system of technical and vocational courses and programmes.

- To approve suitable courses and programmes, establish and assess the standards of performance and award certificates and diplomas as appropriate.
- To promote the interest of technical and vocational education, training and qualifications to secondary schools, employers and the wider community and to define practice. Of particular importance will be the maintenance of effective links with the secondary education sector in order to build bridges between the academic and technical or vocational systems.
- To keep under review relationships with validating and awarding bodies internationally to ensure student mobility and progression to higher education levels of professional qualifications.
- To collaborate and co-operate with industrial training organisations as a means of establishing close links between the education and training of students, and between training and the world of work and services.
- To create a trade-testing service necessary for the workforce in the private and public sectors.

Represented on the council are government ministries, technical and vocational education providers, and the major industries and commercial organisations in Brunei.

Types and levels of qualifications

Craft programmes (trade certificates)

The trade certificates are classified into three grades:

Trade Certificate Grade 3

This level of certification will be called National Trade Certificate Grade 3 or in short NTC3. This programme is aimed for students who have completed Form 3 studies. Students possessing equivalent educational qualifications and experience may also be considered for admission.

Their acceptance to the vocational and technical institutions will depend on their meeting the institutional requirements. These may include passing an admission test and interview. NTC3 programmes will provide students with the basic skills required by their chosen occupations in the trade areas of study.

Students possessing this qualification will have achieved a level of competence equivalent to basic craft. NTC3 graduates will be able to work in industry with either a minimum of, or under, supervision e.g. electrical students.

Trade Certificate Grade 2

This level of certification will be called National Trade Certificate Grade 2 or in short NTC2. The NTC2 programmes are designed for students who have obtained the NTC3 qualification followed by at least one year's working experience in the relevant trade area. Working experience refers to the period during which the NTC3 graduates work in industry with pay and without supervision by an academic institution.

Students possessing equivalent educational qualifications may also be considered for admission into the NTC2 programme provided they have at least one year's working experience in the relevant trade area. NTC2 programmes will provide students with an opportunity to upgrade their knowledge and skills from basic craft to advanced level. Graduates of NTC2 will be able to work in industry independently without supervision.

Trade Certificate Grade 1

This level of certification will be called National Trade Certificate Grade 1 or in short, NTC1. NTC1 programmes are designed for students who have obtained the NTC2 qualification followed by at least one year's working experience in the relevant trade area. The programmes will provide students with an opportunity to upgrade their knowledge and skills towards high-technology.

Students possessing equivalent qualifications may also be considered for admission into the NTC1 programmes provided that they have relevant working experience and that they fulfil the institutional entrance requirements. These programmes will be made available for certain trade areas only depending on the specialised needs of industry. The programmes will be mainly high-technology based and will therefore require high precision.

Technician programmes

Pre-National Diploma

Students who have obtained at least two credits and two passes in relevant subjects at GCE 'O' level may apply to enroll in a one-year Pre-National Diploma programme before joining a National Diploma programme. The PND programme will be a year-one full-time course.

National Diploma

The National Diploma (ND) programmes are designed for students who have completed GCE 'O' level studies with at least credits in four relevant subjects. Students possessing equivalent qualifications with relevant work or study experience may also be considered for admission into the National Certificate/ National Diploma programme. The ND programme will be a two-and-a-half years full-time course including six months' industrial attachment.

Standards for certification

Craft programmes

A National Trade Certificate will be awarded to those students who satisfy the following requirements:

- achievement of not less than 50 per cent of the marks allocated for a project or special assignment
- achievement of not less than 50 per cent of the marks in each of the occupational units
- satisfactory attendance
- satisfactory completion of an industry-based training course

Technician programmes

Certificates and diplomas will be graded either Pass or Fail. The certificates and diplomas awarded will be accompanied by an Achievement Transcript showing only grades, not marks e.g. Distinction, Merit, Pass or Fail.

The Pre-National Diploma will be awarded to those who have satisfactorily completed a minimum requirement as prescribed by the BDTVEC (attached 'Awards Certification').

All qualifications awarded to students by the BDTVE Council have a high degree of national credibility and are accepted by educational and professional bodies, employers, students and parents. The council has also built upon this base to ensure broader international recognition for its awards. This allows for student mobility and progression to the higher level of education.

Quality assurance

The quality assurance processes encompass both the training provider and the training programme which is being delivered.

An external moderator is appointed for a period of three consecutive academic years and is normally expected to visit the designated institutions in Brunei Darussalam in each year, at the end of the institution examinations. He/she helps to ensure that those involved in planning, delivery and assessment of qualifications maintain the national standard of qualifications awarded by the BDTVEC, assess student performance in accordance with the BDTVEC policy and he/she would focus on the areas of assessment, resources, quality assurance and control and learning.

The moderator is required to fill in a Moderator Report Form (MRP) which is a vital element in the BDTVEC quality assurance and control system. This form is the vital element in the BDTVEC quality assurance and control system; it provides information on which future activities may be based. The MRP must accurately represent findings as a result of the investigations and visits made by the moderator.

The accreditation process

In Brunei Darussalam at the time of writing this report, there is no approval yet given to any private sector organisations to run BDTVEC courses or programmes. However, there is a proposed layout designed by the Secretariat of BDTVEC for approving applications as a BDTVEC Centre and for running any BDTVEC programmes.

In Negara Brunei Darussalam it is encouraging that numerous applicants are interested to join the craft and technician courses which are conducted in various technical and vocational institutions in Brunei. The most attractive course amongst the applicants in which the high percentage of them are GCE 'O' level school leavers are the National Diploma programmes. However, not all the applicants are successful as the places are limited to 16 to 20 places in each institute.

Because of increasing interest in technical and vocational education, some private sector providers are now introducing programmes or courses in the area of business and finance, management and banking either as a full-time or a short course to accommodate the increasing needs. In order for these private sectors to offer courses which are nationally recognised they are to follow guidelines and policies designed for Brunei Darussalam Technical and Vocational Education Council (BDTVEC). BDTVEC courses or programmes are in greater demand than the Pre-National and National Diploma.

The quality assurance processes for any programmes conducted by any of the private sector providers follows the same procedures as those implemented by the BDTVEC courses or programmes conducted in other technical and vocational institutions in Brunei. An external moderator who is a representative of BDTVEC working in partnership with institutions/centres would be appointed to provide a regular and consistent review of the programme. He or she would help to ensure that those involved in planning, delivery and assessment of qualifications are maintained at national standards and he/she would also assess student performance in accordance with the certification and assessment guidelines published by the BDTVEC.

Apprenticeship scheme

In many countries the system known as *apprenticeship* is an important means of training people in specific vocations, usually trades.

Under the apprenticeship system the person to be trained enters into an indenture (a legal contract) with an employer. Under the terms of the indenture the employer undertakes to provide the apprentice with training on-the-job, which is often supplemented by formal, off-the-job training with a VTET provider such as a technical college. On successful completion of the apprenticeship, the apprentice is usually issued with a recognised qualification which allows him or her to work as a fully qualified tradesperson or craftperson.

Traditionally apprenticeships lasted for several years. However, in some countries (Australia, for example), the principle of mixed on-the-job and off-the-job training regulated by a legal contract between an employer and the apprentice, has been extended to shorter training programmes at lower skill levels. These newer arrangements are sometimes known as traineeships.

The continuation of traditional methods for training craftpersons, and the historical influence of former colonial powers, in this case the United

Kingdom, has led to the establishment of apprentice training arrangements in Brunei Darussalam, where the Companies' Programme has been introduced.

Under this programme, emphasis is placed on the need to enhance the country's economic viability through job training and re-training. The Department of Technical Education is collaborating with employers in key economic sectors to establish an apprenticeship employment sponsorship training scheme as a means of providing a direct route to stable jobs for young people and especially for craft-level graduates of the vocational schools and technical institutes.

Under the department's scheme, apprentices would have a written contract with the employer, containing the terms and conditions of employment. The apprenticeship agreement would be registered with an agency of government to ensure standards are maintained. On completion of his scheme a qualified craftsman would have the opportunity to resume general education or enter a higher level of vocational education.

Note

1 In Brunei Darussalam the term 'vocational and technical education and training' (VTET) is used, and is synonymous with the terms used by other countries in the region, namely vocational and technical education (VTE), technical and vocational education and training (TVET), and vocational education and training (VET).

Sea of Japan
Yellow Sea
East China Sea
Tropic of Cancer
Bonin Is.
PACIFIC
BURMA
MYANMAR
Hanoi
THAILAND
Bangkok
G. of Thailand
Rangoon
Luzon
PHILIPPINES
Manila
Caroline Is.
Belau Is.
Palawan
Mindanao
Davao
Sulu Sea
Zamboanga
South China Sea
Sabah
BRUNEI
PEN. MALAYSIA
MALAYSIA
Kuala Lumpur
Sarawak
Kuching
SINGAPORE
Medan
Sumatra
Borneo
Celebes Sea
Celebes
Halmahera
Moluccas
New Guinea
Irian Jaya
Ceram Sea
Banjarmasin
Palembang
INDONESIA
Ujung Pandang
Banda Sea
Jakarta
Java Sea
Surabaya
Sunda Str.
Flores
Timor
Darwin
AUSTRALIA

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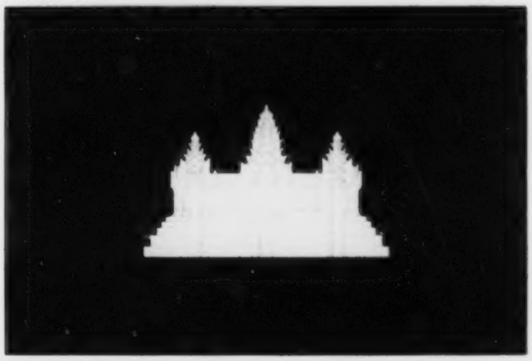
Cambodia



Introduction

Cambodia covers 181 000 square kilometres and at present has an estimated population of a little over 10.5 million. The annual population growth rate for the period 1996 to 2000 is projected to be 2.5 per cent with an annual labour force growth rate of 3 per cent. Khmers dominate the population, but several hundred thousand Vietnamese also live in Cambodia. There is also a significant ethnic Chinese population in the cities, and a variety of other small ethnic groups that live in remote mountainous areas.

The national language is Khmer, and it is the only language spoken by most people. However, English is spoken in all the major businesses and government ministries. French is also common, but decreasing rapidly among the young Cambodians and is no longer used in commerce. Thai is also quite commonly spoken.

Its neighbours dominated Cambodia when France turned it into a protectorate, but 1992 saw Cambodia emerge from more than two decades of war and devastation. While peace plans remain tenuous, the country has gone through a massive transformation as hundreds of businesses and scores of new diplomatic missions are present and tourism has taken off. The coalition of former battlefield enemies, created after the 1993 UN-sponsored elections, attempted to rise from the ashes of two decades of warfare, foreign intervention and failed political experiments (Asia 1995, *Far Eastern Economic Review*).

Over a period of more than two decades, the economy of Cambodia was organised mainly along centrally planned lines. In 1985, some amount of economic liberalisation took place and rapidly grew from 1989 to date. The annual average GDP growth from 1991 to 1995 was 5.9 per cent and the subsequent GDP per capita grew from US$216 to US$287.

Currently, there are no reliable labour market statistics available in the country. However, estimates suggest that between 45 and 50 per cent are economically active (4.3–4.8 million), with more than four-fifths concentrated in the agricultural sector and the economic activity in the rural areas is household-based.

The economy of Cambodia is essentially agrarian. In the rural areas there is a lack of diversification in employment. Educational levels of the workforce, particularly in rural areas, are considered low by international standards. At the national level, 30 per cent had neither attended school nor completed any grade and 68 per cent had only primary-level education. The situation in Phnom Penh is slightly better where 79 per cent had primary education and only 11 per cent fell into the below-primary-level category.

Ironically, while there is a labour surplus in Cambodia, there is a shortage of skilled workers needed to implement and operate foreign- and locally funded projects[1]. Until recently, most investments have been in textile and garment manufacture.

Overview of the education and training system

Public school system

Traditional education was handled by the local wat. The student population was generally young boys, and education was limited to enhancing Buddhism through memorisation of Buddhist chants. From the onset of the French protectorate until 1975, the educational system has been based on the French model. The levels of education are primary, secondary, higher education and some specialised levels. Successful completion of a final state examination led to the award of a certificate after each level.

Basic education

Basic education in Cambodia since 1987 comprised eleven years: five years primary, three lower secondary and three years upper secondary. In the secondary education, examinations at the end of each cycle lead to a certificate of completion and all students follow the same curriculum in all six years. However, after 1996, there was a shift from eleven years of basic education to twelve years (table 1).

Pre-schooling was made available for three years for children aged three to six. With the ratification of the constitution, general education has been made obligatory for nine years for all students.

Secondary education used to be divided into two cycles. Upon the completion of the first cycle, a student takes a state examination and if successful receives an award of a secondary diploma. Upon the completion of the first two years of the second cycle, a student takes a state examination for the first baccalaureate, and following the final year, he or she could take a similar examination for the second baccalaureate. Beginning in 1967, the last three years of secondary school were divided into three sections according to major subjects, which include the letters, mathematics and technology, agriculture, and biology (<http://www.cambodia-web.net/info/country/country4.htm>).

Higher education

Before 1970, Cambodia had nine universities. After more than two decades of war and destruction, in particular, during a very dark period in its history from 1975 to 1978, there was no formal education left. All universities were closed or destroyed. Formal education was reopened in 1979.

Notwithstanding the unstable political situation, the Cambodian Government throughout the 1980s re-established its institutions of higher education. A network of seven institutions is now established offering the following areas of study: liberal arts, teacher training, foreign languages, technology, economics and law, agriculture and fine arts. Some of these institutions offer programmes supported by foreign assistance, for example, the Australian Agency for International Development (AusAID) supporting the English Language Institute at the Phnom Penh University. The present organisation of higher education can be characterised by significant fragmentation in policy and programming and lack of co-ordination (Asian Development Bank Education Sector Strategy Study, 1996).

Outside the university sector between 8000 and 9000 students are enrolled in post-secondary programmes in provincial and regional teacher training colleges, industrial training institutes, medical institutes and agricultural colleges. There are no mechanisms for providing credits for completion of such programmes towards a university degree. For example, anyone who graduates from a regional teacher training college (three years training) receives no credits when embarking on a four-year University of Phnom Penh programme.

Table 1 Education system in Cambodia

	Before 1996			**After 1966**		
Level	*Age*	*Grade*	*Year*	*Age*	*Grade*	*Year*
Primary	6	1	5 years	6	1	6 years
	7	2		7	2	
	8	3		8	3	
	9	4		9	4	
	10	5		10	5	
				11	6	
Junior High School	11	6	3 years	12	7	3 years
	12	7				
	13	8		13	8	
	14	9	3 years	14	9	
Senior High School	15	10		15	10	3 years
	16	11		16	11	
				17	12	
		University				

Current context teacher education development planning is at a point of transition in Cambodia (ADB Education Sector Strategy Study, 1996). Because of the proposed changes in the organisation of schooling from a 5-3-3 system to a 6-3-3 system, teacher-training curriculum needs to be modified as well as instructional materials and examinations. Pre-service and in-service education of teachers will necessarily change. From 1979 to 1983, emergency provision for the training of teachers included an exhaustive search for qualified teachers remaining throughout the country, both to establish schools and train new recruits. Many of these recruits were from a rural background and had only basic skills in literacy and numeracy. The competency level of the recruits therefore ranged from literate and sometimes well-trained urban dwellers to agrarian peasants with basic literacy. These were trained through crash programmes. Some were retrained by means of three-month in-service programmes to satisfy the eight years of general education required when entering teaching. Further in-servicing allowed for recognition of a complete general education plus teacher training (8+2).

Overview of the TVET system

The technical and vocational education and training (TVET) system in Cambodia is currently undergoing a radical reform process in line with the change from centrally controlled economy to free market economy that is taking place in the country. A major part of this reform is taking place with the assistance of an Asian Development Bank (ADB) loan. The process began in 1996 and should have been completed in year 1998.

The reform process will change the TVET system from a traditional training model to a competency-based training model.

Formal technical and vocational education and training consists of a dozen institutions providing one- to two-year courses, usually at post-lower-secondary level. Most of these institutions are located in Phnom Penh and centrally run under different ministries (agriculture, industry and education). The formal TVET system has been playing a relatively minor role in human resource development in Cambodia. It is estimated that a total of 26 000 persons, which is less than six per cent of the labour force, receive training from technical institutions (ibid).

The TVET programmes are characterised by diversity and broad field coverage. A recent survey conducted by the International Labor Organization (ILO) in 1994 reveals that there are nearly 15 000 people enrolled in full-time or part-time programmes nation-wide excluding teacher training. The programmes vary from two-week part-time courses, which are mainly NGO ones, to 2–3 year institution-based programmes. Government-run programmes are essentially traditional. On the other hand, NGO-sponsored activities are a combination of training for selected government workers alongside skills training linked to small enterprise development for the unemployed youth, female heads of household and soldiers. There are no standards in length of programmes, accreditation processes and staff quality. It has been reported too, that in some instances, the NGO programmes have been agreed at provincial level with little government oversight.

There are four major areas of specialisation, namely: agriculture, industry, medicine and public sector administration (table 2).

Table 2 **Fields of specialisation, institutions and features**

Field of specialisation	Institutions & basic features	Enrolment
Agriculture/forest/fishing	Prek Leap Agricultural College (only institution currently in operation)	730 (a larger majority of students follows the 2.5-year diploma course than those pursuing the 1-year certificate course)
Industrial training	Seven schools and training centres: (building, carpentry and masonry in some institutions have been dropped due to lack of student demand)	
	Tuk Thla Vocational and Technical Training Centre (2-year courses for technicians in mechanics and electro-techniques; and a 1-year course for skilled workers in electrical installation and repair, automobile repair, and welding)	Below 200
	Russey Keo Technical School of Industry (general mechanics, carpentry and welding)	Below 200
	Post and Telecommunications School	
	Constitution Technical Training School	
	Auto Repair Technical School	

Medical	Central Health Cadres School in Phnom Penh and regional health cadres schools (presently active) provide the following categories of medical personnel: nursing, midwifery, laboratory technicians and physiotherapy). Some students are recruited at post-upper-secondary level following the three-year programme; others follow the one-year course at post-lower-secondary level). Programmes of continuing education and medical personnel training were recently established with the support of NGOs.	Total enrolment in health cadre schools is around 3000 (1500 in Phnom Penh alone). A majority of the students is enrolled in the three-year course.
Public service training	National School of Planning offers a single programme in statistics, is expected to provide in-service training for the staff of the Ministry of Planning and be attached to the National Planning Institute. National School of Finance provided, until 1992, exclusive in-service training to public sector employees. It is now extending its services to the private sector. It has established training programmes for secondary school graduates in the areas of economics, law, finance and accounting. The *Ecole Royal d'Administration* reopened in May 1993, with two short terms in-service programmes in public administration and the second one in magistracy.	Enrols between 200 and 300 civil servants

Another feature of the TVET system is the apparent overlap and duplication of programmes, especially in the agricultural and industrial sectors. In some instances, government and NGOs are running similar courses in the same and nearby institutions (ADB, Education Sector Strategy Survey, 1996). Furthermore, the current programme profile shows that there is limited attention paid to business, management and information technology (IT). There are virtually no offerings in private or public sector management training. IT programmes vary from two weeks to three months in length suggesting patchy overall quality and effectiveness.

The ILO survey of TVET activities run by non-government organisations (NGOs) shows that only one scheme is adapted for apprenticeship. There is a limited amount of practical training and industrial attachments in current programmes. Moreover, the survey (1994) demonstrates a very heavy urban bias in TVET programming. Of the 132 training sites, roughly two-thirds were situated in or around Phnom Penh. Another one-fifth was concentrated in the provinces. However, nine provinces had no formal TVET training opportunities. The distribution across government and NGO-run TVET operations was similar.

Skills maps and skills standards

The current TVET system in Cambodia was put in place during the 1980s based on the Russian TVET model. It conformed to Russian skill standards before 1993. This system was driven by central planning and as a result fails to meet the needs of the labour market today.

Today, Cambodia has been categorised as one of the countries in the Greater Mekong Sub-region without skills standards testing and certification system (SSTC, ADB Final Report TA No. 5681-Reg, 1997). Although there is no system of SSTC at the moment, the government recognises the need to develop a national SSTC system as soon as possible.

Cambodia is undergoing radical changes in its TVET system. Most of these reforms have only begun and the processes for certification and accreditation have not yet been finalised.

Major organisations involved in TVET and their roles

Responsibility for technical and vocational education and training is shared among a number of government ministries and departments.

- The Ministry of Education Youth and Sports (MOEYS) has the responsibility for the provision of all TVET in Cambodia, including programmes managed and delivered by non-governmental organisations, international organisations, the private sector and other ministries.
- Furthermore, the MOEYS has been assigned the responsibility for SSTC in Cambodia through its Department of Higher Technical and Vocational Education and Training (DHTVET) which is the main provider of vocational education and training.
- OTVET, the Office of Technical and Vocational Education and Training within the Department of Higher Education and Technical and Vocational Education and Training (DHTVET) is charged with the supervision of TVET.
- MOSALVA or the Ministry of Social Affairs, Labour and Veterans' Affairs is expected to assist in the development and implementation of an SSTC system of Cambodia.

- The Department of Labour (DOL) provides short-term training and is expected to take charge of upgrading and skills testing. It is also tasked to develop regional employment promotion centres.

Evolution of the training system has meant that individual line ministries are responsible for staff development programmes and training institutions.

The certification system

As was mentioned in an earlier section, Cambodia does not as yet have a national system of certification and accreditation. The task of certification is somehow assigned to ministries. Many ministries provide formal vocational training under the government's TVET system such as Ministry of Social Action, Labour and Veterans Affair, Ministry of Health, Ministry of Agriculture, Ministry of Communication and Transport, Ministry of Planning, etc.

There are two types of formal TVET qualifications issued by the ministries: certificate and diploma. Certificate programmes take school leavers with eighth grade high school while diploma programmes take those who finish high school.

The various ministries provide the certificates or diplomas for their own training centres. The minister, the secretary or under-secretary, signs these.

The accreditation system

Although it is reported by ADB (1997) that Cambodia has no currently existing accreditation system for TVET institutions, the country has adopted some policies relevant to accreditation. Before a new programme begins it must be approved by the Ministry of Planning and the Secretariat of Labour. Without this approval the training qualification will not be recognised and salary increases based on holding particular qualifications will not be given.

TVET qualifications are not accepted as prerequisites for university and there is no system for recognition of prior learning or credit for subjects completed elsewhere when determining entitlement to TVET qualifications.

Outside the government TVET system

Unfortunately there is no systematic way for the commercial sector to influence the TVET system. There are significant numbers of non-recognised TVET qualifications issued outside the official certification system, mostly by non-government organisations and international organisations providing income-generating skills. There is also a significant number of private colleges providing vocational training.

Accreditation of qualifications outside the government TVET system comes under the Ministry of Education. There is a committee staffed by the Ministry of Education, the Ministry of Labour and the Ministry of Planning. This committee will accredit qualifications from outside the formal government system.

Accreditation of TVET programmes is done by means of a request to the Department of TVET under the Ministry of Education. When requested, the Department of TVET forms an ad-hoc committee to accredit TVET programmes.

Notes

1 This was cited in the ADB Final Report TA No. 5681-Reg, 1997 and was originally reported in an unpublished paper by the author of the technical study who undertook a training needs assessment as an input to the Cambodia TVET Strategy plan (February 1996).

Sea of Japan
Yellow Sea
East China Sea
Tropic of Cancer
Bonin Is.
PACIFIC
BURMA (MYANMAR)
Hanoi
VIETNAM
THAILAND
Rangoon
Bangkok
CAMBODIA
Ho Chi Minh City
South China Sea
Luzon
PHILIPPINES
Manila
Caroline Is.
Belau Is.
Mindanao
Davao
Palawan
Sulu Sea
G. of Thailand
Penang
PEN. MALAYSIA
MALAYSIA
Kuala Lumpur
Medan
Sumatra
SINGAPORE
BRUNEI
Sabah
Sarawak
Kuching
Borneo
Sulu Is.
Celebes Sea
Moluccas
Halmahera
New Guinea
Irian Jaya
Celebes
Ceram
Banda Sea
Banjarmasin
Palembang
INDONESIA
Ujung Pandang
Jakarta
Java Sea
Surabaya
Java
Sunda St.
Flores
Timor
Darwin
AUSTRALIA
140
10

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Republic of Indonesia

Introduction

Geography

The Republic of Indonesia is the largest archipelago in the world, consisting of over 17 000 islands. It covers a land area of 1.9 million square kilometres (733 590 square miles), islands of which stretch over more than one-tenth of the equator between South-east Asia and Australia.

Main islands and cities: There are six main islands which include Java, Sumatra, Sulawesi, Kalimantan, Irian Jaya, and Bali; while the largest cities comprise those of Jakarta (the capital), Surabaya, Bandung, Semarang, Yogyakarta, Solo, Medan, Padang, Palembang, Ujung Pandang, Banjarmasin, Bandar Lampung and Manado.

Climate: The country, being situated along the equator, normally experiences temperatures ranging from16 to 35 degrees Celsius with humidity of 60 to 90 per cent.

Population

Indonesia is currently the fourth most populous nation in the world after China, India and the United States. Its current population of approximately 207 million is projected to grow to 212 million by early 2000 and to 228 million by the year 2005.

Density: Together with the adjoining smaller islands of Madura and Bali, Java accounts for just over seven per cent of the Indonesian land area but is home to some 120 million inhabitants, around 60 per cent of the total population. By contrast, Irian Jaya (the Indonesian part of the island of Papua) represents 22 per cent of the total landmass, yet has only one per cent of the population.

Ethnic groups: The majority of Indonesia's population is of Malay stock. The rest is a mixture of Melanesian and other ethnic subgroups (especially in Irian Jaya and the eastern islands as far as Timor Timur). Furthermore, ethnic Chinese are also found in urban areas throughout the archipelago.

Religion: Eighty-eight per cent (88%) of the population is Muslim; about 14 per cent are Christians (Protestant and Roman Catholic); a very small percentage (2%) comprises the Hindi and the Buddhists.

National language: Bahasa Indonesia, based on the Malay language, is the unifying language among more than 200 distinct regional languages.

Government

The Government of Indonesia is structured as a unitary republic that got its independence from the Netherlands and Japan on 17 August 1945. The highest authority is vested on the People's Consultative Assembly known as Majlis Permeyurahan Rakyat (MPR).

B J Habibie took over the position as President of Indonesia in May 1998 succeeding President Suharto who held the position for more than 20 years.

Economy

GDP of Indonesia: The current GDP of the country is Rp 529 trillion or US$223 billion and its GDP growth rate as of 1996 is placed at 7.82 per cent, estimated to be minus 10–15 per cent by 1998.

Per capita income: In 1996 the per capita income was US$1140 and estimated to decline in 1998 by approximately US$300.

Natural resources: Oil and natural gas, coal, tin, copper, nickel ore, gold and lumber.

Main agricultural products: Rice, palm and coconut oil, coffee, tea, spices, sugar, natural rubber and marine (shrimp and fish).

Main manufactured products: Plywood, textiles, garments, shoes, processed rubber, processed food, electrical/electronic goods and LNG.

The current economic and financial crisis in Asia has affected all sectors of the Indonesian economy and all levels of society. At present, it is difficult to predict or anticipate future developments due to the current political and economic uncertainty. The factors mentioned below are deemed relevant to vocational education and training.

Export structure

Indonesia, which is a major oil producing (OPEC) country, could—according to current trends of consumption and production—become a net oil importer as early as the year 2000. Other major export products are also losing importance as foreign exchange earners. For example, the textile industry is faced with growing competition by even cheaper suppliers (Viet Nam, China). The export situation in the plywood sector (Indonesia is the largest plywood exporter in the world) has also deteriorated, owing to temporary price declines. According to World Bank estimates, Indonesia's forests are worth more today than its proven crude oil reserves.

Trade

Indonesia's membership in world and regional trade bodies (WTO, ASEAN Free Trade Area and Asia-Pacific Economic Conference) reflects the vital role that multilateral and bilateral trade plays in the country's economy. Statistics reveal a steady evolution in Indonesian exports, from an initial base of agricultural products, through extended growth of oil and natural gas exports, to the latest phase in which manufactured products have grown to become the largest source of export earnings. Major markets are Japan which took 28.1 per cent of Indonesia's exports in 1996, other ASEAN nations (15.5%), the EC (14.9%) and the US (12.6%).

Indonesian exports

Processed materials: Plywood and lumber, palm and coconut oils, steel, chemicals (organic and inorganic), fertilisers, pharmaceuticals, processed foods and processed rubber.

Manufactured goods: Textiles, garments, footwear, leather goods, wood and rattan furniture, electronic and electrical goods, glassware, ceramics, tyres, small manufactured goods.

High technology: Automobiles, engines and parts, aircraft and components, electronic components and measuring instruments.

Mineral products: Oil and LNG, coal, gold, tin, copper and nickel.

Traditional exports: Spices, essential oils, plant materials, foodstuffs, shrimp, fish products, rubber, coffee, tea and cocoa.

Indigenous products: Handicrafts, herbal medicines and natural cosmetics.

Manufacturing

Once heavily dependent on oil and gas, the Indonesian economy is today driven by value-added products for international markets. Rapid expansion of the manufacturing sector—spurred by the government's economic reform and restructuring policies—has been accompanied by significant job creation. Before Indonesia was hit by the economic crisis in mid-1997, the sector employed some 8.6 million people, or nearly 11 per cent of the workforce. For the Sixth Five-Year Development Plan (Repelita VI) which began in April 1994, the manufacturing sector is predicted to grow around 10 per cent annually. By the end of Repelita VI in 1999, the industrial processing and manufacturing sector is expected to contribute well over a quarter of GDP.

Principal products

Consumer products: Textiles, garments, shoes, leather goods, cigarettes, automobiles and components, motorcycles, furniture and other wood products, televisions, radios, cassette players and pharmaceuticals.

Industrial products: Basic metals, steel, tin-plate, cement, basic chemicals, fertiliser, crumb rubber, heavy equipment, tractors, machinery, machine tools, engines and components, plastic goods, paint, glass products, yarn, industrial textiles, electronic equipment and components, aircraft and components.

The labour market

Although Indonesia's labour market has undergone a remarkable transformation in the past, underemployment, relatively low productivity and the need for rapid skill upgrading are still central labour issues. Over the past decades, the country's industrial and export boom has been fuelled by an almost unlimited supply of comparatively cheap labour. Although government efforts have effectively checked population growth, the effects of former rapid increases are still felt in the labour market. Table 1 shows that the annual labour force growth has remained high throughout the 1980s and will probably remain at similar levels up to the end of the century. However, 2.3 million new entrants have to be absorbed by the labour market each year, posing a formidable challenge to employment generation.

Agriculture's share of total employment has continuously fallen since 1965. Yet it remains the country's dominant job provider and the absolute number of farm workers has even grown. Manufacturing employment has steadily increased over the past few years, but is heavily concentrated on Java island.

Before the current economic crisis, the official figures of unemployment in Indonesia were relatively low and predominantly seen as a problem of the urban young, but rural underemployment is a far more serious issue. In fact it is believed to be widespread in almost all regions of the country. In addition, considerable numbers of unskilled and semi-skilled Indonesians have in the past opted to seek jobs and higher incomes as migrant workers, mostly in the Middle East or in neighbouring Malaysia.

Table 1: Key labour market indicators[1]

Indicators	Distribution
Average annual labour force growth 1994–97	2.12%
Total labour force, 1997	87 million
Female share of labour force 1993	31%
Employment by sector 1997	Agriculture, forestry, hunting and fishery 41.18%
	Mining and quarrying 1.03%
	Electricity, gas, and water 0.27%
	Construction 4.83%
	Trade, hotel 19.78%
	Transportation and communication 4.75%
	Financing, insurance and business services 0.75%
	Community, social and personal services 14.52%
Total unemployment, 1997	Less than 5%

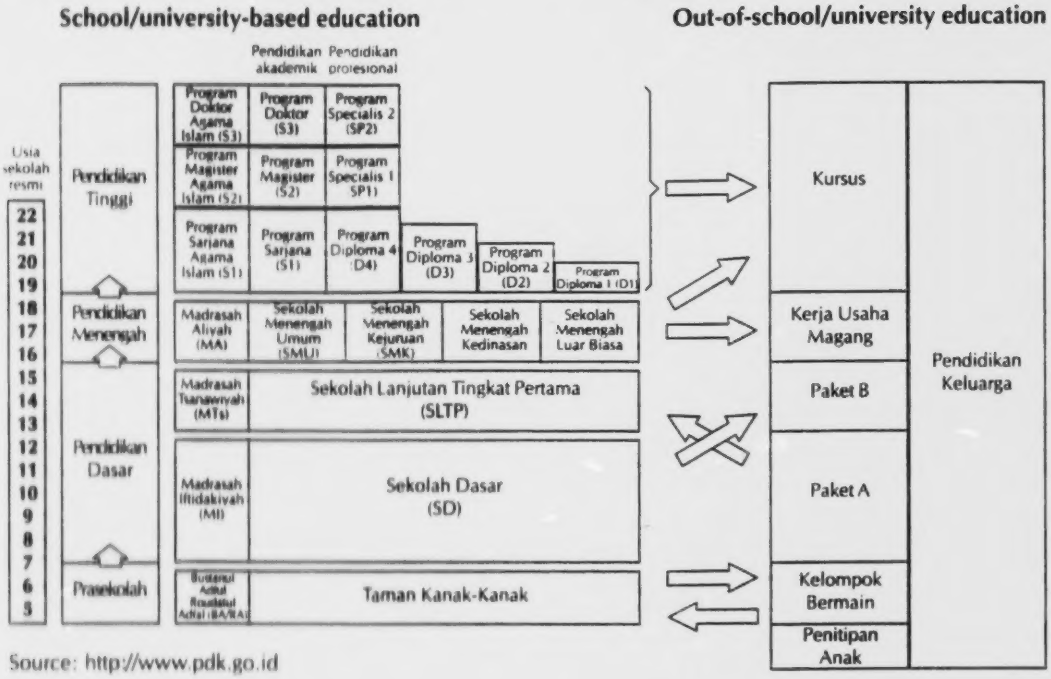
Overview of the education and training system

There are two kinds of education in Indonesia: school/university-based education and out-of-school training as mandated by Law UU No. 2, 1989[3]. Education and training can be performed in both public and private schools/ institutions. Public schools are placed under the supervision of several ministries[4], but within the formal education system, all schools have to follow the national curricula.

In general, 'out-of-school' training activities are open to everybody. Up to the level of basic education, there are certificates in such training, which allow pupils/students to enter the next level of formal education. In figure 1, the arrows show the possible criss-crossing from one type of education to another across levels with the corresponding equivalents. This possibility supports the reintegration of dropped out students back into the formal education system.

The school-based education system in Indonesia consists of six years of primary education and three years of junior secondary school, which are both compulsory[5]. After junior secondary school students can enter the world of work or select between general senior secondary school (SMA) or vocational senior secondary school (SMK)[6].

Figure 1: Education system in Indonesia UU No.2 Tahun 1989


School/university-based education
Out-of-school/university education
Pendidikan akademik
Pendidikan profesional
Usia sekolah resmi
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
Pendidikan Tinggi
Pendidikan Menengah
Pendidikan Dasar
Prasekolah
Program Doktor Agama Islam (S3)
Program Doktor (S3)
Program Specialis 2 (SP2)
Program Magister Agama Islam (S2)
Program Magister (S2)
Program Specialis 1 SP1)
Program Sarjana Agama Islam (S1)
Program Sarjana (S1)
Program Diploma 4 (D4)
Program Diploma 3 (D3)
Program Diploma 2 (D2)
Program Diploma 1 (D1)
Madrasah Aliyah (MA)
Sekolah Menengah Umum (SMU)
Sekolah Menengah Kejuruan (SMK)
Sekolah Menengah Kedinasan
Sekolah Menengah Luar Biasa
Madrasah Tsanawiyah (MTs)
Sekolah Lanjutan Tingkat Pertama (SLTP)
Madrasah Ibtidakiyah (MI)
Sekolah Dasar (SD)
Bustanul Athfal Roudlatul Athfal (BA/RA)
Taman Kanak-Kanak
Kursus
Kerja Usaha Magang
Paket B
Paket A
Kelompok Bermain
Penitipan Anak
Pendidikan Keluarga

Source: http://www.pdk.go.id

A Senior Secondary School Certificate is a prerequisite to access the academic programs leading to BA, MA and PhD degrees and/or to the higher vocational (diploma) programs of one, two, three and four-year duration.

The school/university-based education system is guided by the Ministry of Education and Culture (MoEC), but can be implemented by other ministries as well. The ministries providing funds and policy directions to the institutions, control the registration, examination and take over general co-ordinating functions. Some limited government support is provided to private educational institutions.

The 'out-of-school' education system falls under the responsibility of the MoM and the MoEC. After the phase of compulsory education, 'out-of-school' vocational education and training is open to all age groups.

Overview of the vocational technical education and training (VTET) system

The state authority for vocational education and training is shared by the (MoEC) and the MoM, while the planning council, BAPPENAS, is responsible for the co-ordination of development planning.

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Over the last twenty-five years, the Indonesian state has established a large number of technical and vocational schools which offer a wide range of study options nationwide, achieving success comparable to progress achieved in the field of compulsory general education, thus supporting Indonesia's efforts to produce skilled manpower. However, the traditional, informal sector still provides employment for some 80 per cent of the population as against the 20 per cent absorbed by modern industry. Vocational education demands and training options vary enormously between these two sectors.

TVET has been given high priority in the current Repelita VI . However, up to now, no uniform VET system is being adopted in Indonesia. Vocational education and vocational training approaches of the two involved ministries (MoEC and MoM) vary.

The concept of vocational education, which is the responsibility of the MoEC, aims to prepare students to continue their study at a higher institute of formal learning, such as a polytechnic institute. At the same time, vocational education is expected to prepare students (upon graduation) to directly enter the world of work. This concept, based on the Anglo-Saxon system, overlaps with programmes of the MoM, particularly in preparation for a working life.

School-based vocational education

Role of the Ministry of Education and Culture (MoEC)

Technical and vocational schools exist at both junior secondary level, secondary and senior. Within the scope of the curriculum reform 1994, and the plans to complete the programme of compulsory schooling by nine years by the year 2000, all junior secondary schools, including junior technical schools, will be regrouped as part of the extended primary cycle and classified as general education. For this reason this report concentrates on senior technical and vocational schools (SMK) only.

The Ministry of Education and Culture is divided into the following directorates-general:

- Directorate-General for Primary and Secondary Education
- Directorate-General for Tertiary Education (Higher Education)
- Directorate-General for Non-formal Education, Youth and Sport
- Directorate-General for Culture

The Directorate-General for Primary and Secondary Education is responsible for VTE through its Directorate of Vocational and Technical Education (DTVE) and the Directorate for Private Schools, which are responsible for practice-oriented training, conducted by senior technical and vocational SMK schools (Sekolah Menengah Kejuruan).

In general, the preservice training of teachers at SMK schools is provided by teacher education institutes (IKIPs). They are certified with Diploma 3 or Strata 1 (S1) degrees. SMK teachers, who provide theory and practice-oriented instruction to students, periodically undergo upgrading courses at one of the six vocational teacher training centres called Pusat Pengembangan Penataran Guru (PPPGs), to update and improve their knowledge and skills.

Table 2: **VTE programmes and school**

Sectors	Training centres	Number of schools	
		Public	*Private*
Technology and industry	STM, STMP, (BLPT Training Center)	183	
Agriculture and forestry	SMT Pertanian	47	
Business, commerce and tourism	SMEA, SMIP, SMKK, SMPS, SMTK	448	
Arts and crafts	SMIK, SMSR, SMM, SMKI	48	
Total		726	3000

Table 3: **Upgrading courses and training centre**

Area	Training centre
Agriculture and forestry	PPPG Pertanian at Cianjur
Arts and crafts	PPPG Kesenien at Yogyakarta

In the field of TVET, the MoEC is responsible for all school-based training for young people up to the age of 18, and complete senior secondary schooling. In the academic year 1995–96[7], at the vocational senior secondary school level, 1 648 482 students underwent training, consisting of 500 253 students at public schools and 1 148 229 students at private schools.

Objectives of technical and vocational schools

Technical and vocational schools pursue the following objectives[8]:

- Furthering the individual development of pupils and their sense of responsibility for the development of the nation based on the principles of the national ideology 'Pancasila'.
- Developing creative vocational skills and abilities to meet the demands of the working world on an intermediate level.
- Transmitting the basic techniques which will allow students to continue to learn throughout their lives, and which will enable individuals to continue to higher education within the scope of their abilities.

The aim as could be gleaned from these objectives is to promote and educate individuals so that they recognise their own practical and theoretical abilities and be able to make correct decisions as to whether they will pursue higher level education, or alternatively join the working world straight away. Qualifications which are purely and directly relevant to the labour market can be obtained in particular at the BLKs (training centers) run by the MoM.

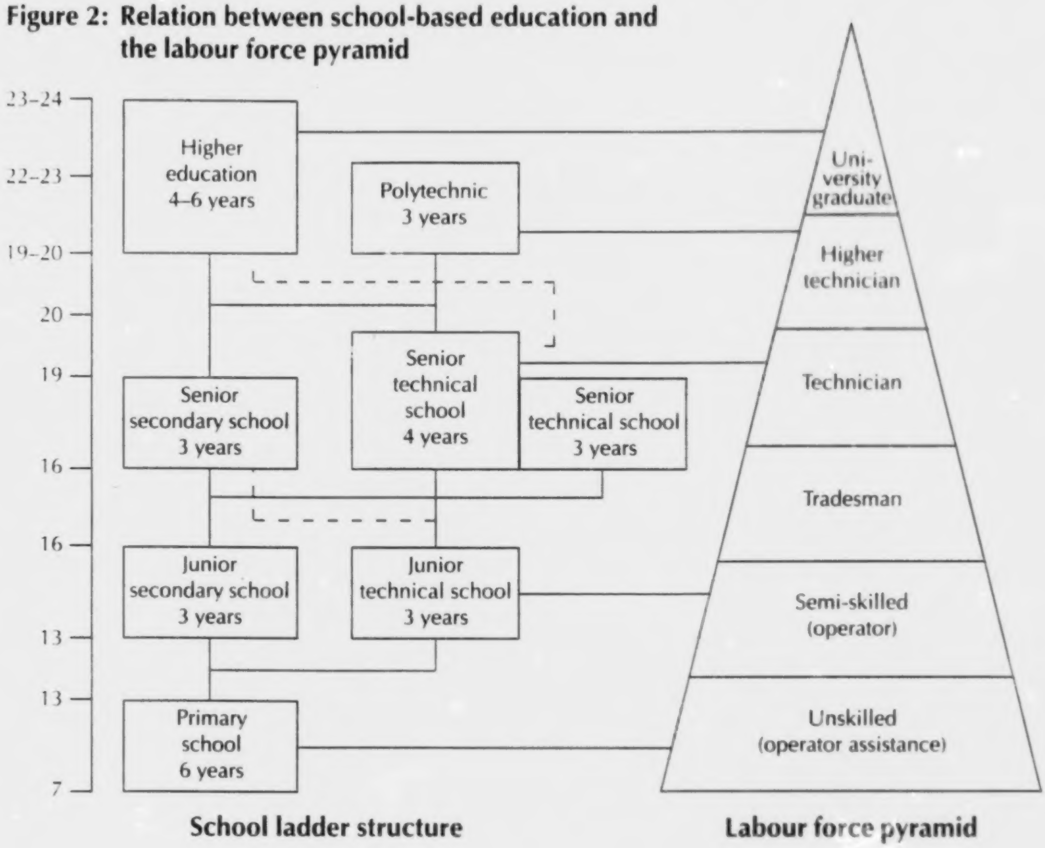
Cognisant of the qualitative and quantitative imbalances between the outputs of the formal TVE system and the requirements and absorption capacity of the labour market, MoEC in 1993 introduced the 'Link & Match' policy. This was intended to 'link the education system to the "world of work"', and 'match the quantity and quality requirements of manpower in the productive sectors'. (Wardiman Djojonegoro, 1994).

Public training providers, e.g. vocational secondary schools, are supposed to become 'self-supporting and self-managing institutions' with only partial support from the government. Development and management of the 'system' shall be guided and monitored by a National Council for Vocational Education (MPKN) as well as provincial TVET offices and school councils, involving also representatives of the 'world of work' and training providers.

MoEC's 'Link & Match' policy and the 'Skills Towards 2020' programme are designed to apply to all levels of the education and training system including tertiary education. 'Link & Match' has been further enhanced into what is referred to as 'Pendidikan Sistem Ganda' (PSG), employing the 'dual education system' at the TVE senior secondary school level. The basic idea of PSG is that both partners, vocational secondary schools on the one hand and industry/businesses on the other-hand, co-operate to complement school-based vocational education with on-the job learning in enterprises. MoEC's 'Link and

Match' policy and the introduction of PSG have been supported by joint government/industry activities. The relation between school based education and the 'labour-force pyramid' is explained in figure 2.

Figure 2: Relation between school-based education and the labour force pyramid


23–24
22–23
19–20
20
19
16
16
13
13
7
Higher education 4–6 years
Polytechnic 3 years
Senior secondary school 3 years
Senior technical school 4 years
Senior technical school 3 years
Junior secondary school 3 years
Junior technical school 3 years
Primary school 6 years
University graduate
Higher technician
Technician
Tradesman
Semi-skilled (operator)
Unskilled (operator assistance)
School ladder structure
Labour force pyramid

Skills map and skills standard of MoEC SMK system

Vocational education is divided into four sectors, namely: Technology and industry; Agriculture and forestry; Business and forestry; Business and management; and Arts and crafts.

Each area is defined by fields of work, which are further divided into specialisation as shown in the list below.

The standards of the listed professions are given by MoEC curricula, which has been defined in co-operation with industry. Skill mapping and standards used in public schools and private schools are identical.

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Table 4: Vocational education sectors, fields of work and specialisations

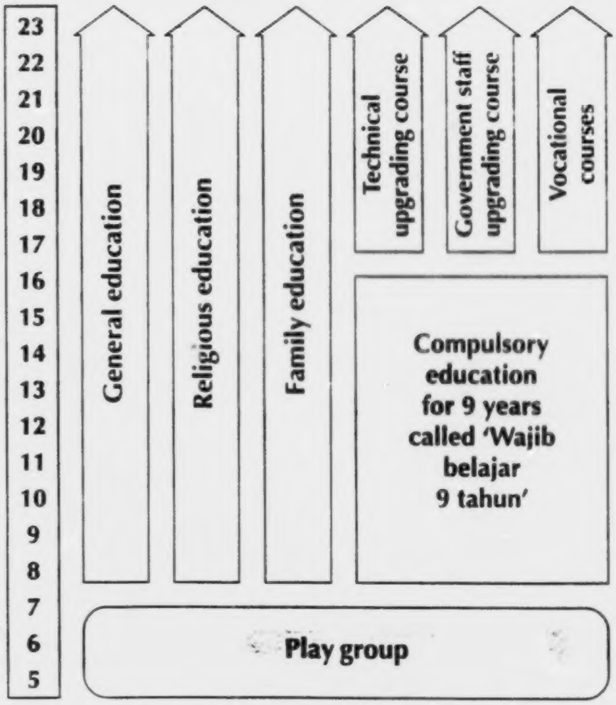
Vocational education sector	Fields of work	Specialisation
1 Technology and industry	a) Building	Surveying & mapping
		Architecture
		Building construction
		Wood work (carpentry)
		Plumbing & sanitation
	b) Electronics	Domestic electrical installation
		Distribution electrical installation
		Utilisation electrical
		Industrial electronics
		Information technology
		Audio video technology
		Industrial electronics
		Communication electronics
		Refrigeration technology
	c) Machinery	Welding technique
		Forming technique
		Cast-iron technique
		Metal processing
		Industrial mechanics
		Technical drawer (machinery)
		Auto mechanics
		Heavy instrument technique
		Body and painting
2 Agriculture and forestry	a) Agriculture	Plantation production
		Livestock husbandry
		Fishery
		Agricultural production
		Agricultural mechanics
3 Business and management	a) Finance	Accounting
		Banking
	b) Office administration	Secretarial work
	c) Marketing	Sales
		Insurance
		Co-operatives
	d) Tourism	Tour & travel
		Hotel
		Food & beverages
	e) Beautician	Skin beautician
		Hair beautician
	f) Clothing	Boutique clothing
	g) Social work	Social work
4 Arts and crafts	a) Fine arts	Fine arts
	b) Textiles	Textiles
	c) Ceramics	Ceramics
	d) Leatherwork	Leatherwork
	e) Metal crafts	Metal crafts
	f) Wood carving	Wood carving

Out-of-school-based vocational education and training

Out-of-school-based vocational education and training is supervised by two ministries, the Ministry of Education and Culture (MoEC) and the Ministry of Manpower (MoM). General education, as well as religious and family education target the society. On the other hand, technical and government staff upgrading courses, as well as vocational courses cater to the needs of the workforce.

At the MoEC, the Directorate of Community Education co-ordinates with vocational training.

Figure 3: Out-of-school education and training system in Indonesia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General education
Religious education
Family education
Technical upgrading course
Government staff upgrading course
Vocational courses
Compulsory education for 9 years called 'Wajib belajar 9 tahun'
Play group

Table 5: Skills map and skills standards for out-of-school training provided by MoEC

Sewing women's and children's clothes (basics, skilled, expert, expert model pak and mantel, expert linseri)

Sewing men's clothes (basics, skilled, expert)

Machine and hand embroidery (basics, skilled, expert)

Cooking Indonesian food (basics, skilled, expert)

Cooking European food (basics, skilled, expert)

Cooking Chinese food (basics, skilled, expert)
Baking (basics, skilled, expert)
Pastry making (basics, skilled, expert)
Food and beverages (basics, skilled, expert)
Hantaran (basics, skilled)
Hair styling (basics, skilled, expert)
Skin care (basics, skilled, expert)
Acupuncture (skilled)
Electronics (basics, RTR, black and white TV, colour TV, digital TV, M/K, VPK)
Automotive mechanic (basics MB, skilled MB, basics MD, skilled MD, basics SPN, skilled SPN)
Secretarial work and office administration (paket)
Accounting (basics one, basics two, skilled, expert)
Typing (basics, skilled, expert)
Computer informatics (basics one, basics two, Wordstar 4.0, Wordstar 5.0/5.5/6.0, WordPerfect, Lotus123, dBASE III basics, dBASE III intermediate)
Baby and child care (skilled)
Dressmaking (basics, skilled, expert)
Bridal (Solo Putri, Solo Basahan, Bugis, Padang, Yogya Corak Putri, Yogya Paes Ageng, Gaun Panjang (barat), Sunda Putri, Sunda Siger, Bali, Betawi, Gayo, Banjar, Aceh, Cirebon, Palembang)
Flower arrangement (basics, skilled, expert)
Traditional Balinese flower arrangement (basics, skilled, expert)
European flower arrangement (basics, skilled, expert)
Japanese flower arrangement 'Ikebana Sugetsu' (basics, skilled, expert)
Japanese flower arrangement 'Ikebana Ikenobo' (basics, skilled, expert)
Japanese flower arrangement 'Ikebana Ichiyo' (basics, skilled, expert)
Organ, guitar and percussion instrument playing (basics, skilled, expert)
Landscaping (basics, skilled, expert)
Dry flower making and arrangement (basics, skilled, expert)
Artificial flower making and arrangement (basics, skilled, expert)
English language (basics one, basics two, intermediate one, intermediate two, advanced)
Dutch language (basics, intermediate, advanced)
Japanese language (basics one, basics two)
Modelling (basics, skilled)
Arabic language (basics, intermediate)

Duration of these education and training courses ranges from three months to one year.

Role of the Ministry of Manpower (MoM)

In 1984, the MoM set up a national training council (DLKN) and regional training councils (DLKD) involving the government, employer organisations, chambers of commerce and employee representatives to advise and assist the

MoM in matters of national training planning and implementation. Since 1985, the MoM (with support of the ILO, the British Council and the World Bank) has been involved in the development of Occupational Skill Standards (OSS) and a related Skill Assessment and Certification System. Based on these OSS and an 'open access' skills testing and certification system, the MoM formally established a national training system (SISLATKERNAS) providing a national framework for all measures related to vocational training in Indonesia in 1987.

In general, national training services provided by the MoM target school graduates, job seekers, employees, experienced workers and self-employed workers. These training programmes are related to technical, entrepreneurial, and managerial competencies. Each programme comprises three levels of training, i.e. basic/elementary, intermediate, and advanced. Each level has standardised programmes in accordance with job requirements.

Every year MoM training centres (VTCs) provide a capacity with initial vocational training lasting three to six months for nearly 122 000 participants. Private training institutes are estimated to provide more as the capacity of state BLKs. Most trainees are unemployed school leavers who receive training that will allow them to seek employment mainly in the informal sector as self-employed or employed workers.

Types of training institutions at the MoM

Vocational training under the MoM is implemented by vocational training centres (VTCs) or 'Balai Latihan Kerja (BLK)' and small vocational training centres (SVTCs), which are operational units under the MoM. Based on Ministerial Decree No. 88/men/1997, VTCs and SVTCs are divided as follows:

Vocational training centres for instructors and development tasks

These institutions train instructors, training experts for the private sector and government, and also conduct training in research and development tasks.

Specific vocational training centres (type A: seven centres, type B: two centres)

Specific VTCs conduct employment training specialising in agriculture, commerce (business), welding, tourism, appropriate technology and maritime.

Vocational training centres for industry (type A: 18 centres, type B: nine centres)

VTCs for industry are operational units specifically for industry training, which will necessarily be implemented at industry level.

Vocational training centres for small and medium enterprises (VTCSMEs) (type A: five centres, type B: nine centres)

VTCs for small and medium enterprises are operational units that have the responsibility to conduct training for small and medium enterprises.

Small vocational training centres (VTCs) (four centres for industry, 99 centres for small and medium enterprises)

These VTCs are responsible for conducting training for industry and for small and medium enterprise.

Training implemented by the VTCs includes institutional training programmes, non-institutional training programmes, apprenticeship programmes, and tailor-made training programmes.

Institutional training programmes

Institutional training programmes are aimed at training job seekers and employees in the various skills that are available in the VTCs. These skills cover the fields of mechanical technology, automotive, building construction, electronics, commerce and agriculture (table 4). In the programme, a trainee obtains a single skill to fill a job occupation in a company. Skill qualifications are divided into basic, intermediate and advanced levels.

The subject content of the programs is 70 per cent practical instruction and 30 per cent theory, with a programme duration of 640–960 hours.

Non-institutional training programmes

Non-institutional training programmes are aimed at training the labour force, particularly in rural areas, which is needs-based. In this programme, the trainees acquire a single skill to improve their productivity. Unlike the institutional programmes, the skill qualification of the trainees matches their needs (basic level). In this programme, the training is conducted in or outside of the VTCs or at the location of the trainees by using a mobile training unit

(MTU). The duration of the training ranges from three to six months and at the end of the programme, the trainees are given a letter of attendance.

Skills map and skills standards

Vocational training programme	Subjects
1 Automotive	Gasoline machine, diesel, motor, sticking motor, body repair, driver
2 Mechanical technology	Plumbing, arc welding, gas welding, metal working, blocking smith, tools and dies
3 Electronics	Radio, television, light installation, electrical installation, AC, nickel winding
4 Building construction	Building, construction, stone construction, wood construction, furniture, shuttering, building design
5 Commerce	Secretarial work, typing, accounting, English, office management, hotel, computer
6 Various industries	Sewing, metal crafts, wooden craft, batik, hairdressing, planting, ceramics, embroidery, entrepreneurship
7 Agriculture	Plantation, poultry, fishery, agriculture, processing, mechanisation, mixed farming, horticulture

Major organisations involved in VTET and their roles

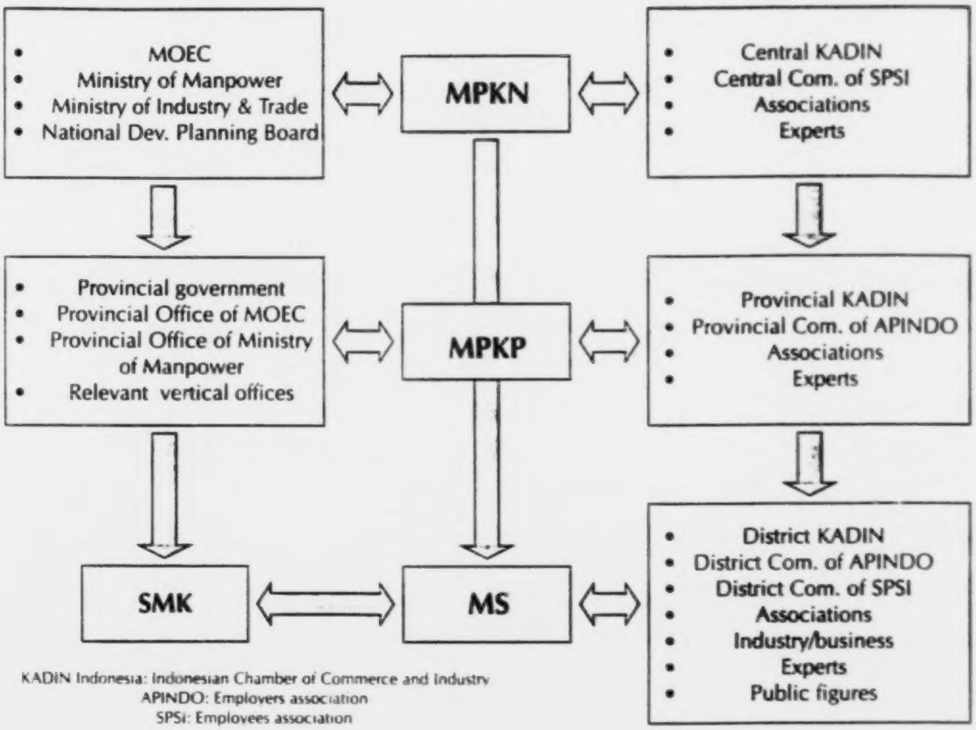
As explained above, vocational education is run and influenced by various ministries, state institutions and administrative units, as well as by private enterprises, chambers of commerce, professional associations and private initiatives.

At the MoEC, the National Council for Vocational Education is in charge of developing a common frame, to co-ordinate and to synchronise the different organisational forms and various didactic approaches.

Based on Joint Decrees of the MoEC and the Indonesian Chamber of Commerce (KADIN) No. 0267a/U/1994 and No. 84/KU/X/1994 dated 17 October 1994, a National Council for Vocational Education (MPKN) was established, together with councils at provincial level (MPKP) , and school councils (MS) at each SMK. The councils are intended to enhance collaboration between all parties involved in vocational education.

The steering committee of MPKN prepares vocational education policies on a national level[9]. In the councils, the government side is represented by MoEC, MoM and other relevant institutions while the world of business/industry is

Figure 4: MPK relationship


• MOEC
• Ministry of Manpower
• Ministry of Industry & Trade
• National Dev. Planning Board
MPKN
• Central KADIN
• Central Com. of SPSI
• Associations
• Experts
• Provincial government
• Provincial Office of MOEC
• Provincial Office of Ministry of Manpower
• Relevant vertical offices
MPKP
• Provincial KADIN
• Provincial Com. of APINDO
• Associations
• Experts
SMK
MS
• District KADIN
• District Com. of APINDO
• District Com. of SPSI
• Associations
• Industry/business
• Experts
• Public figures

KADIN Indonesia: Indonesian Chamber of Commerce and Industry
APINDO: Employers association
SPSI: Employees association

represented by KADIN, the Association of Indonesian Employers, labour unions, professional associations and other relevant organisations.

The steering committee is supported by teams of experts in 40 professions. The task to implement, regulate and supervise policies, in co-operation with MoM and KADIN, is given to the Directorate of Vocational Education (DTVE).

In principle, the organisation structure on provincial and school levels refers to the structure of the National Council for Vocational Education above. The relationships between partners on national, provincial and school level correspond to the appropriate level. The main duties of provincial councils for vocational education (MPKP) and school councils (MS), among others, are:

- to elaborate the MPKN policy and programmes for implementation at provincial/school levels
- to utilise the potential of the world of business and industry to participate actively in the PSG implementation
- to conduct vocational skill competitions (Lomba Keterampilan Kejuruan or LKK) at provincial level and competency tests (Ujian Competensi) at school

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- to campaign for PSG within the province or region[10]

The Directorate of Technical and Vocational Education (DTVE) is supported on a national (macro) level by the six vocational teacher upgrading centres (PPPGs), which are empowered to act as 'vocational education development centres'. The PPPGs have been involved in conceptualising and implementing the 'dual education system' (PSG) and have played an important role in initiating and implementing TVET reforms.

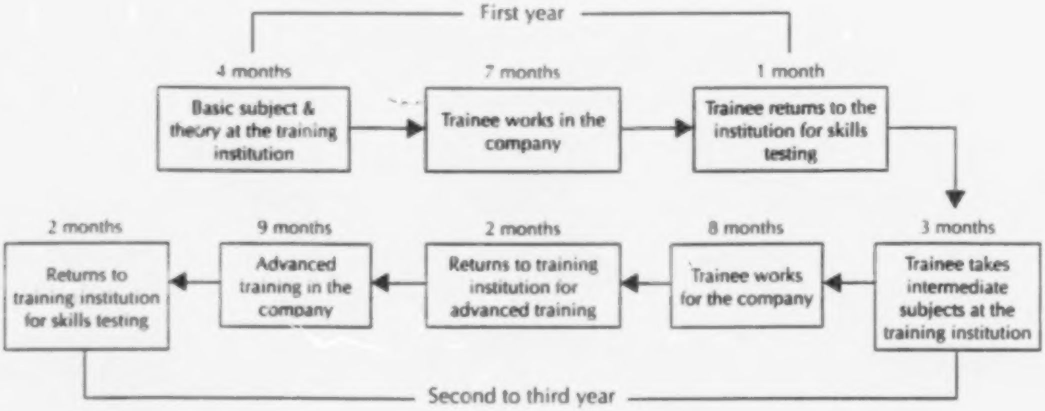
Apprenticeship programmes

In 1994, the MoM with the assistance of the German Technical Cooperation, started to introduce 'dual apprenticeship training' parallel to the implementation of the 'dual education system' (PSG) conducted under the auspices of the MoEC.

Apprenticeship programmes are aimed at training the labour force in various skills within an enterprise and the maximum duration of the programme is three years. The programme is jointly managed by the training institution and the company. The diagram below shows the mechanism of the training programme.

Since 1995, the MoM—with support from the World Bank—has been implementing a 'skills development project' involving the establishment of 'company group training centres' (i.e. some sort of 'broker' between company

Figure 5: Apprenticeship Training Programme


First year
4 months
Basic subject & theory at the training institution
7 months
Trainee works in the company
1 month
Trainee returns to the institution for skills testing
3 months
Trainee takes intermediate subjects at the training institution
8 months
Trainee works for the company
2 months
Returns to training institution for advanced training
9 months
Advanced training in the company
2 months
Returns to training institution for skills testing
Second to third year

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training needs and training providers). This has been conceived to bridge the gap between the immediate training demand of companies and the training delivery by public and private providers.

Tailor-made training programmes

These programmes are aimed at training the employees of a company according to its needs; the training being done either at the VTCs or on company grounds. Skill qualification and duration of the programme are determined by mutual agreement between the VTCs and the respective enterprise.

The certification system

There are two kinds of certificates in Indonesia, namely:

- diplomas and competency certificates issued by schools
- training certificates and profession certificates issued by 'out-of-school' institutions

Certification system of MoEC

The basic model of certification of vocational education (MoEC)

Students graduating from vocational senior secondary school (SMK) obtain two certificates, an official school diploma (STTB) and a competency certificate, both of which are issued based on the results of the final exam (EBTA/EBTANAS) and a competency test .

Competency tests stress the skill standards prevalent in local/regional industry, skills that have been acquired through a process of 'mastery learning' at the school and its industry partners (PSG programme).

Competency tests are held at the end of the third year, encompassing all study subjects from first grade up to third grade, including practical experience gained in industry. Project work is conducted before the EBTA/EBTANAS while the skills tests may be held before or after EBTA/EBTANAS.

Takers of competency tests are third year SMK students or SMK graduates. Students undergoing competency tests may originate from the organising school or from other private SMK schools that are recognised by the MPKP. On the other hand, SMK graduates may take competency tests in their field of specialisation if they have graduated not more than one year before the test is held.

Takers of competency tests need not necessarily pass lower level competency tests. Should a taker fail in a competency test, he may reapply the following year. Non-students (e.g. workers) may be allowed to take competency tests based on mutual agreement between the school council (MS), the school, the business enterprise and the applicant himself.

Certification authorities

Examination Board for Competency Tests

The Examination Board is composed of representatives from partner enterprises and the school. The Board's responsibilities are:

i) preparation of test materials
ii) preparation of test site and practical facilities
iii) supervision of test implementation
iv) evaluation of test results
v) issuance of competency test certificates
vi) reporting test results to the head of the MPKP

Examination Jury

The Examination Jury consists of experts in a respective field of specialisation. It is represented by various groups: professional associations, the Chamber of Commerce (KADIN), partner companies and other enterprises, labour unions, etc. Education is represented by SMK instructors and vocational school experts.

Each jury consists of at least three persons, with a minimum ratio of 2:1, industry/work and education sectors respectively.

Types and levels of qualifications

SMK students who pass the EBTA/EBTANAS obtain a diploma (STTB) in their respective field (specialisation). Students who pass the competency test are given a competency certificate in the respective field of specialisation.

The competency certificate certifies the competency acquired by its holder during three years of study and practical work experience in industry (PSG program). Such certificate holders have the potential to take up jobs in the respective specialisation, based on the scope of skills acquired.

Skills and testing system for quality assurance

A national skills testing system has been established to improve the quality of competency tests and in the effort to produce SMK graduates that would closely match the qualification requirements of the world of work. The system has various elements/components.

Team of experts (KBK): There are two levels of experts. One is at the national level (MPKN) and the other is at the provincial level (MPKP). MPKN at the national level co-ordinates and provides counsel and guidance regarding the implementation of a competency test and its certification. In addition, it works out guidelines for competency test implementation, including standards and quality aspects.

National industry representatives are members of MPKN's team of experts (KBK) and actively participate in the respective trade (specialisation), ensuring that industry needs with regard to competency test implementation and certification are observed at national level.

At the provincial level, the team of experts is in charge of promoting operational implementation guidelines for competency test implementation and certification at its level. There are also industry representatives at this level who ensure that industry needs with regard to competency test implementation and certification are observed at the provincial level.

Secretary: The directorate, like the team of experts, has two levels, national and provincial, having the role of co-ordinating competency test implementation.

School level: SMK school is represented in the organising committee as well as the partner industry, appointed by the school council. They collaborate in conducting and implementing competency tests at the school level.

A team of experts (MS) co-ordinates and bears the responsibility for competency test implementation at the school level. It has also the responsibility of forming examination boards for competency tests at the respective school; and issues and legalises competency certificates.

In the jury, the school forms minority membership while the majority is formed by the partner industry and they are responsible for data obtained during the students' practical work experience, and support documents of evaluation of test results.

Certification system for out-of-school courses (MoEC)

The basic model of out-of-school courses

In order to obtain a certificate, a student has to take either the local test, the provincial test or the national test. If a participant has joined one of those tests, he/she does not need to take tests of a lower level any more.

Certification system of MoM

Indonesian Manpower Law No. 25/1997 is the mandate that covers certification of skills particularly stipulated in paragraph 127. Skills certification is the process of providing a skill certificate systematically and objectively through a skill test. This certification is provided by a skill certification institution farmed by the government. Normally, besides the skill certification, every trainee also receives a training certificate from the training institution.

Skill certification can also be requested by workers having experience in his/her line of work and is provided through skills or work experience test.

The basic model

Two kinds of certificates are issued by the Indonesian Ministry of Manpower (MoM), i.e. certificates by institutions that provide training courses (BLK), and national certificates. Course certificates are given to trainees who join local exams at the respective institution, while national certificates are issued by a national team of examiners to students who have taken the national exam.

Certification authorities

The Directorate of Manpower Training Development is a technical unit operating under the Directorate-General of Manpower Development and Placement, Ministry of Manpower. The MOM acts as national executing agency which has the role and function to prepare occupational skill standards (OSS), occupational training standards (OTS), skill testing and certification nationally. To carry out respective skills tests, relevant skill testing committees are established.

The members of the Skills Testing Committee are:

- Ministry of Manpower (BINLATKER, PUSLATKER and BLK)
- professional associations
- representatives of enterprises (KADIN)
- experts and examiners

The tasks of the Skills Testing Committee include:

- setting the test schedule
- checking the qualification of the candidates
- making announcements
- preparing the test papers and arranging for practical tests
- conducting the skills tests
- evaluating the tests

Type and level of qualification

Trained workers

Graduates from training institutions or other organised training may receive a certificate from the training institution itself. The certificate will be issued for the respective level of training achieved, i.e. a certificate for basic level, intermediate level or advanced level.

Skilled worker

In order to obtain a National Skills Certificate, trained workers as well as others who feel fit for this may apply for admission to take the National Skills Test at their respective level (Grade 1, Grade 2 and Grade 3).

Skills test plays an important role as a means of knowing or measuring the level of achievement or capability (science and skill) of test participants, who have either completed the training or possess a certain level of experience.

In order to facilitate the skill tests, especially for those who have a particular level of experience, modular programmes are designed. Participants who have passed a skills test have the right to obtain a certificate of skills in their field and for their respective level of competence.

Such skills tests can be taken not only by graduates of formal education and training, but also by other interested members of the labour force, both employed and unemployed.

Table 6: Skills tests, entry requirements and certification obtained

Type	Level	Entry requirements	Certification
Technical Skill Test	Skill Test 3	– Participants of the basic level technical training programme – Beginners who have passed the selection test	Basic level technicians
	Skill Test 2	– Participants of the intermediate level technical training programme – Basic level technicians who have passed the selection	Intermediate level technicians
	Skill Test 1	– Participants of the senior level technical training programme – Intermediate technicians who have passed the selection	Target senior technicians
Entrepreneurial Skill Test	Skill Test 3	– Elementary-level student of self-employed training programme – Beginner self-employed who have passed the selection	Junior self-employed entrepreneur
	Skill Test 2	– Participants of the intermediate level self-employed training programme – Basic self-employed who have passed the selection	Intermediate-level self-employed entrepreneur
	Skill Test 1	– Participants of the senior level entrepreneurial training – Intermediate self-employed who have passed the selection	Senior self-employed entrepreneur
Managerial Skill Test	Skill Test 3	– Participants of the elementary level managerial training programme – Beginner managers who have passed the selection	Junior manager
	Skill Test 2	– Participants of the intermediate level managerial training programme – Junior managers who have passed the selection	Intermediate-level manager
	Skill Test 1	– Participants of the senior technical managerial training programme – Intermediate-level managers who have passed the selection	Senior manager

According to regulations, certification is also for the purpose of licensing. The status of a profession is not automatically linked to the status of a position or the gained income. Both, however, are functionally parallel. In other words, the career of a profession runs parallel to the career of a position. In accordance with its sector, certification is achieved through skills tests. In order to take part in a skill test, a person must first pass a selection process.

Certification may provide a possibility for a change in status of the individual to promote his/her career, get a higher salary, as well as increase his/her mobility. Manpower certification also provides the opportunity of a career path (recycling), to join more advanced skill tests, or repeat a skill test a person has failed.

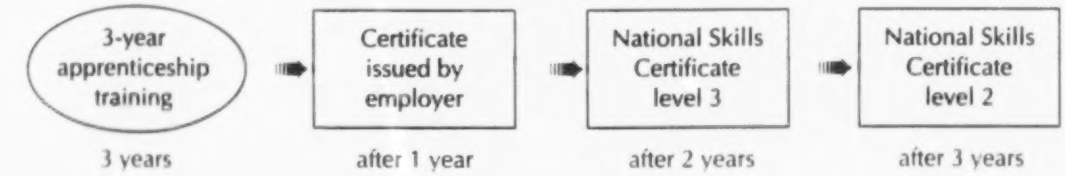
In specific sectors and at skill levels that are related to safety of the community and its environment, certificate holders require a licence to work/apply a skill.

Certification system of apprenticeship programme

The basic model

After undergoing a three-year apprenticeship training, a successful participant obtains three certificates as shown in the diagram below:

Figure 6: Three levels of certification after apprenticeship


3-year apprenticeship training
Certificate issued by employer
National Skills Certificate level 3
National Skills Certificate level 2
3 years
after 1 year
after 2 years
after 3 years

Certification authorities

The jury of the national skills test consists of :

Basic level: Company, instructor of BLK

Intermediate, advance, and manager: Skills test committee

Vocational education and training: Matching the set-up of Indonesian industry

Only the level of semi-skilled and skilled labour are covered in this programme. Highly skilled labour will be matted after 3–5 years of relevant job experience and further upgrading courses. Basically they pass through the levels from basic skills to intermediate training for trade skills and further on to trade specialisation certificate.

Table 7: Type and levels of qualification

Type	Entry requirements	Certification
Company certificate at basic level	Junior Secondary School (SLTP) graduates; age 15–16 years; having passed a selection test	Basic vocational skills; one-year training in general, basic vocational skills; company examination and certificate
National Skills Test Level 3	Trade related training: in the 2nd year, specific trade-related training for intermediate level, one may take the national skills test level 3 or a company examination and certificate	National Skills Test Level 3 Certificate (intermediate level)
National Skills Test Level 2	Further specialised vocational training: in the third year, advanced trade-related training and may take national skills test level 2	National Skills Test Level 2 Certificate. Those who pass the test are expected to be skilled and competent workers in their trade
National Skills Test Level 1 (managerial level)	After undergoing an intermediate-level apprenticeship training programme and gaining 3–5 years of work experience, the trainee may join a management training course. After a training course of 6–12 months, the trainee may take the national skills test level 1.	National Skills Test Level 1 Certificate. Participants who pass the program are qualified to start and own a business or work as a manager in an enterprise

Accreditation system for training providers

Accreditation of SMK schools

There are two kinds of institutions under the 'SMK school' category, namely, public vocational secondary schools and private vocational secondary schools.

Curriculum accreditation

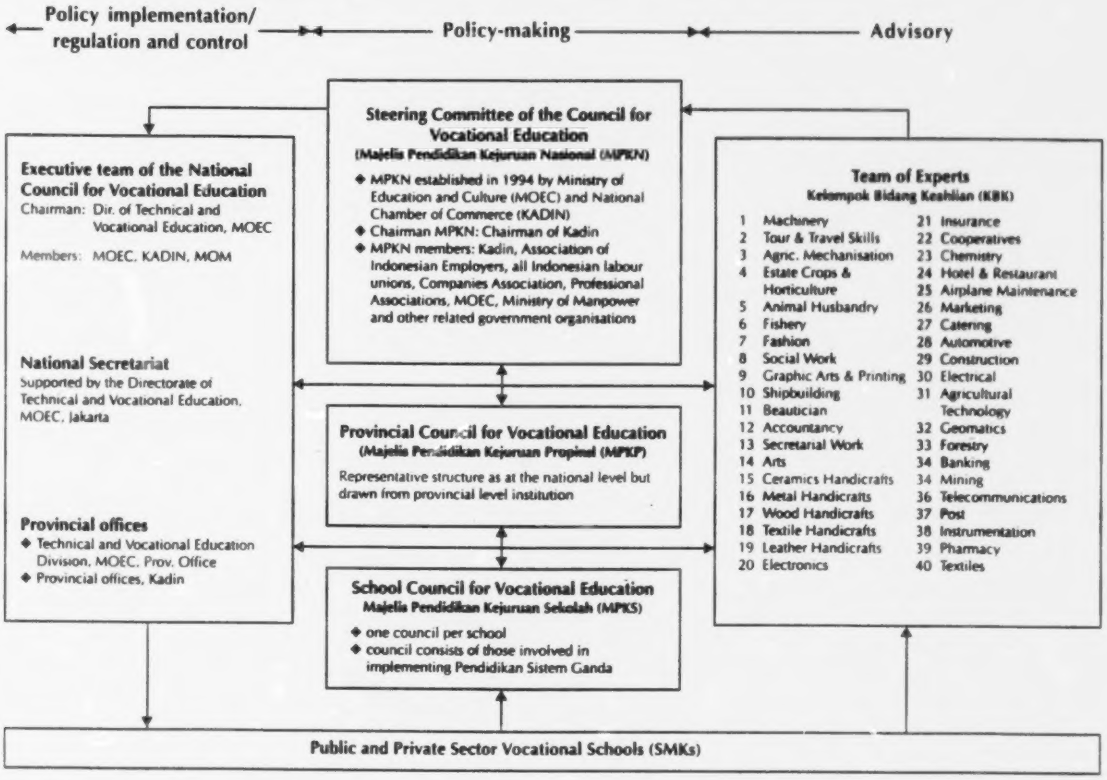
Both kinds of schools mentioned above are supervised by the Directorate of Technical and Vocational Education (DTVE) which undertakes curriculum reforms every ten years. Curriculum reform and curriculum development adhere to the following mechanisms :

- For curriculum adjustments related to existing subject matter, agreement of a school's respective head of department and notification of the school principal are sufficient.

- For adjustments that concern development and introduction of new teaching subjects, authorisation of the school principal and notification of the respective head of Provincial Office DTVE and the concerned PPPG is required.
- For changes of patterns or strategies in education that differ substantially from current conventions, authorisation of the school principal and notification of the respective head of Provincial Office DTVE and the concerned PPPG is required.
- For adaptations that have an effect on the skill profile of SMK graduates, but do not affect the wholeness of education and existing minimum national skill standards, authorisation of the school principal and notification of the respective head of Provincial Office DTVE is essential.
- Curriculum adjustments that affect the skill profile of SMK graduates have to be authorised by the Directorate of Technical and Vocational Education (DTVE) on behalf of the Directorate-General of Primary and Secondary Education.

The National Council for Vocational Education (MPKN) oversees SMK schools in Indonesia (see figure 7).

Figure 7 The National Council for Vocational Education


Policy implementation/ regulation and control
Policy-making
Advisory
Executive team of the National Council for Vocational Education
Chairman: Dir. of Technical and Vocational Education, MOEC
Members: MOEC, KADIN, MOM
National Secretariat
Supported by the Directorate of Technical and Vocational Education, MOEC, Jakarta
Provincial offices
◆ Technical and Vocational Education Division, MOEC, Prov. Office
◆ Provincial offices, Kadin
Steering Committee of the Council for Vocational Education
(Majelis Pendidikan Kejuruan Nasional (MPKN)
◆ MPKN established in 1994 by Ministry of Education and Culture (MOEC) and National Chamber of Commerce (KADIN)
◆ Chairman MPKN: Chairman of Kadin
◆ MPKN members: Kadin, Association of Indonesian Employers, all Indonesian labour unions, Companies Association, Professional Associations, MOEC, Ministry of Manpower and other related government organisations
Provincial Council for Vocational Education
(Majelis Pendidikan Kejuruan Propinsi (MPKP)
Representative structure as at the national level but drawn from provincial level institution
School Council for Vocational Education
Majelis Pendidikan Kejuruan Sekolah (MPKS)
◆ one council per school
◆ council consists of those involved in implementing Pendidikan Sistem Ganda
Team of Experts
Kelompok Bidang Keahlian (KBK)
1 Machinery
2 Tour & Travel Skills
3 Agric. Mechanisation
4 Estate Crops & Horticulture
5 Animal Husbandry
6 Fishery
7 Fashion
8 Social Work
9 Graphic Arts & Printing
10 Shipbuilding
11 Beautician
12 Accountancy
13 Secretarial Work
14 Arts
15 Ceramics Handicrafts
16 Metal Handicrafts
17 Wood Handicrafts
18 Textile Handicrafts
19 Leather Handicrafts
20 Electronics
21 Insurance
22 Cooperatives
23 Chemistry
24 Hotel & Restaurant
25 Airplane Maintenance
26 Marketing
27 Catering
28 Automotive
29 Construction
30 Electrical
31 Agricultural Technology
32 Geomatics
33 Forestry
34 Banking
34 Mining
36 Telecommunications
37 Post
38 Instrumentation
39 Pharmacy
40 Textiles
Public and Private Sector Vocational Schools (SMKs)

Introducing new specialisation/closing existing specialisation

Mechanisms for introducing new subjects or closing existing subjects at SMK schools are as follows :

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1. The school, in collaboration with the school council (particularly the world of work), conducts a feasibility study to determine whether a new program ought to be opened or an existing subject ought to be dropped.
2. Based on the results of the feasibility study, the SMK school submits its recommendation to the respective head of provincial office DTVE.
3. This proposal is scrutinised by the Provincial Office MoEC (based on certain criteria) and then forwarded to :
   - The Directorate of Technical and Vocational Education (DTVE), in the case of public SMKs
   - The Directorate-General of Primary and Secondary Education, with notification of DTVE and the Directorate of Private Schools, in the case of private SMKs.
4. Approval or rejection of submitted proposals is done as follows :
   - The Directorate of Technical and Vocational Education (DTVE), on behalf of the Directorate-General of Primary and Secondary Education, approves or rejects proposals submitted by public SMKs
   - The Directorate-General of Primary and Secondary Education approves or rejects proposals submitted by private SMKs, based on recommendations by DTVE and the Directorate of Private Schools.
5. Said approval or rejection is communicated immediately to the SMK school via the respective Provincial Office MoEC.

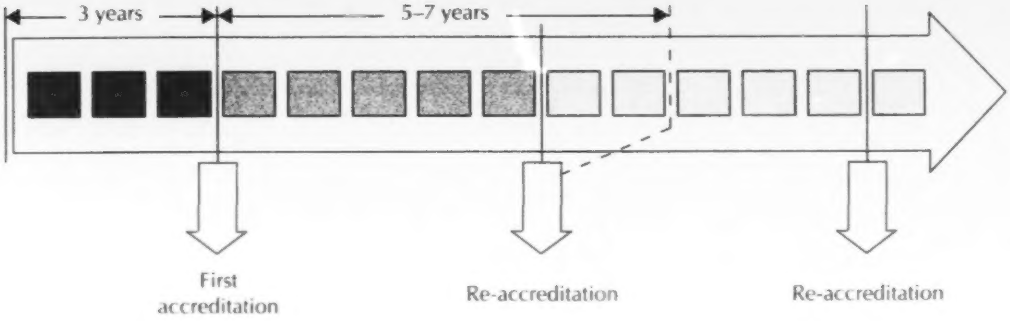
Supervision of public vocational secondary schools (SMK)

Supervision of public SMK schools is carried out by the Directorate of Technical and Vocational Education (DTVE) through school supervisors in the regions who are co-ordinated by the head of the Provincial Office DTVE. In 1995, DTVE introduced a monitoring and evaluation mission programme that involves one visit of school supervisors to each school every two years, reviewing the performance of both school principal and the school itself.

Accreditation of private vocational secondary schools (SMK)

Accreditation of private SMK schools is done by the Directorate for Private Schools through a process that is repeated every five years. At the start of school operation, the school has the status of 'registered' at the Provincial Office MoEC. After graduation of the first batch of students (at the beginning of the fourth year of operation) the first accreditation is initiated, an accreditation that is valid for five years. If no re-accreditation is undertaken by the school after five years, the current accreditation status can be extended to a maximum of another two years (totalling a maximum of seven years).

Figure 8: Accreditation and re-accreditation of private vocational secondary schools



Requirements for first accreditation of private SMK schools are:

- having obtained a permit to establish a school
- having been assigned a school registration number (NDS)
- having a complete set of classes with a minimum of ten students per class
- having at its disposal a minimum of two (private or civil servant) vocational teachers for each study subject
- not having graduated any students before
- owning (if possible) the needed buildings, facilities and equipment (as stipulated by the Directorate-General of Primary and Secondary Education)

Requirements for re-accreditation of private SMK schools are:

- the previous accreditation was obtained at least five years ago
- (if possible) planning additions to current study programme and/or having the potential to obtain a higher school status
- owning (if possible) the needed buildings, facilities and equipment (as stipulated by the Directorate-General of Primary and Secondary Education)
- A school's current accreditation status is no longer compatible with its development/condition.

School evaluation teams

School evaluation teams consist of three persons, preferably including an Association of Private School Providers (BMPS) representative:

Team head:		one school supervisor DTVE
Members:	Alternative I:	one school supervisor DTVE one BMPS representative
	Alternative II:	two school supervisors DTVE

Duties of SMK school evaluation teams

- Assessing the actual condition of the school based on established standard evaluation procedures (evaluation tools).
- Entering evaluation results into the school's evaluation results accreditation book.
- Preparing an official written record of the assessment done.
- Examining and signing the last page of the school's report.
- Re-checking the completeness and correctness of the filled-in evaluation tools, evaluation results, evaluation marks, official written record and identity of school, by way of an available check list.

Term of duty

School evaluation teams are formed for a period of one (financial) year.

School evaluation review teams

An evaluation review team is formed by the head of the Provincial Office MoEC in special cases or if the regular school evaluation team cannot solve a certain problem. Membership consists of three persons involved in private SMK accreditation or other experts assigned by the head of the accreditation team. The school evaluation review team has the task to re-evaluate the school.

The final assessment of a re-evaluated school is based on the average mark given by the school evaluation team and the school evaluation review team.

Accreditation is based on the evaluation of seven components that give a maximum of 10 000 points:

❖ school administration	(1400)
❖ institutional aspects	(800)
❖ staffing	(1900)
❖ curricula	(1800)
❖ students	(1200)
❖ infrastructure	(2100)
❖ general condition	(800)

A conversion table that converts the respective evaluation marks (0–10 000) into the final mark (0–100) is attached in annex 3.

Accreditation status	'Registered' (Terdaftar)	if the final mark is below 69
	'Acknowledged' (Diakui)	if the final mark is between 70 and 85
	'Accepted as equal' (Disamakam)	if the final mark is above 85

Private SMK schools that wish to obtain the status of 'Accepted as equal' (equal to public schools) have to fulfil the following conditions :

- possess own buildings and education facilities
- the average mark (NEM) achieved by third year students of the school in last final national exam (EBTANAS) must at least equal the average mark obtained by students in the respective province
- possess the necessary class rooms and equipment for each study subject as stipulated by the Directorate-General of Primary and Secondary Education

Even if a school's final evaluation mark exceeds 85, a school can only obtain the highest status of 'Accepted as equal' if it also fulfils the above three requirements.

In order to ensure quality and objectivity of school assessments, school evaluation teams are composed of government and BMPS experts who truly master their trade and are able to properly apply the available evaluation instruments. Priority is given to evaluators who have undergone technical accreditation training. Evaluation team members that originate from BMPS are assigned by respective regional BMPS where the school is located. BMPS team members are not allowed to evaluate schools which they either manage or own.

Accreditation of out-of-school education

Out-of-school education involves training offered either by the public, by BLKs and the apprenticeship programme.

The Directorate for Out-of-school Education supervises courses managed by the public, while BLKs and the apprenticeship programme fall under the guidance of the Directorate-General for Promotion of Training and Productivity.

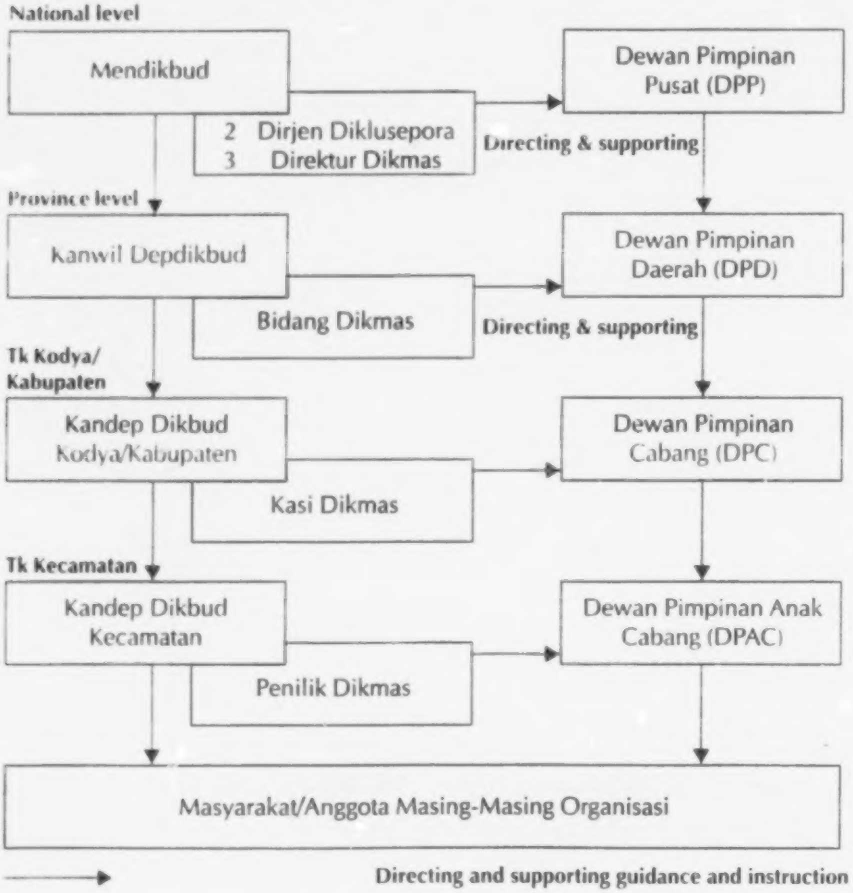
Guidance of training courses managed by the public

Three kinds of organisations support training courses of the public :

- Association of Provider for Vocational Courses (HP-PLSM)
- Association of Instructor for Vocational Courses (HISPI)
- vocational experts associations

Each organisation has a headquarters and branches in various regions (see diagram below).

Figure 9: Organisation mechanisms of out-of-school education managed by the public


National level
Mendikbud
2 Dirjen Diklusepora
3 Direktur Dikmas
Dewan Pimpinan Pusat (DPP)
Directing & supporting
Province level
Kanwil Depdikbud
Bidang Dikmas
Dewan Pimpinan Daerah (DPD)
Directing & supporting
Tk Kodya/ Kabupaten
Kandep Dikbud Kodya/Kabupaten
Kasi Dikmas
Dewan Pimpinan Cabang (DPC)
Tk Kecamatan
Kandep Dikbud Kecamatan
Penilik Dikmas
Dewan Pimpinan Anak Cabang (DPAC)
Masyarakat/Anggota Masing-Masing Organisasi
Directing and supporting guidance and instruction

Functions of HP-PLSM:

1. Issuing recommendations for courses organised by the public, as stipulated in existing regulations.
2. Issuing recommendations for instructors of management training at national/ provincial/regional level.

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3 Improvement of training course quality by way of holding :
  - management training
  - seminars/workshops relevant to training course management
  - model course competitions

4 Undertaking relevant research and development tasks.

5 Issuing recommendations and providing guidance to study groups.

6 Collaborating with relevant organisations.

Functions of HISPI:

1 Giving recommendations to examiners and training supervisors regarding national examinations.

2 Improving the quality of instructor/examiners/supervisors by way of :
  - holding training of instructor/examiners/supervisors
  - organising seminars/work shops on teaching methodology
  - compiling teaching material/guidelines for trainees/instructor/examiners/supervisors

3 Proposing material (problems) for national examinations in the respective field.

4 Undertaking research and innovative development in the field of out-of-school teaching methodology.

Functions of vocational experts associations:

1 Giving recommendations to select participants of regional, national and international skill competitions.

2 Improving the quality of activities of its members by way of holding:
  - seminars/workshops on the quality of skills
  - regional, national and international skill competitions

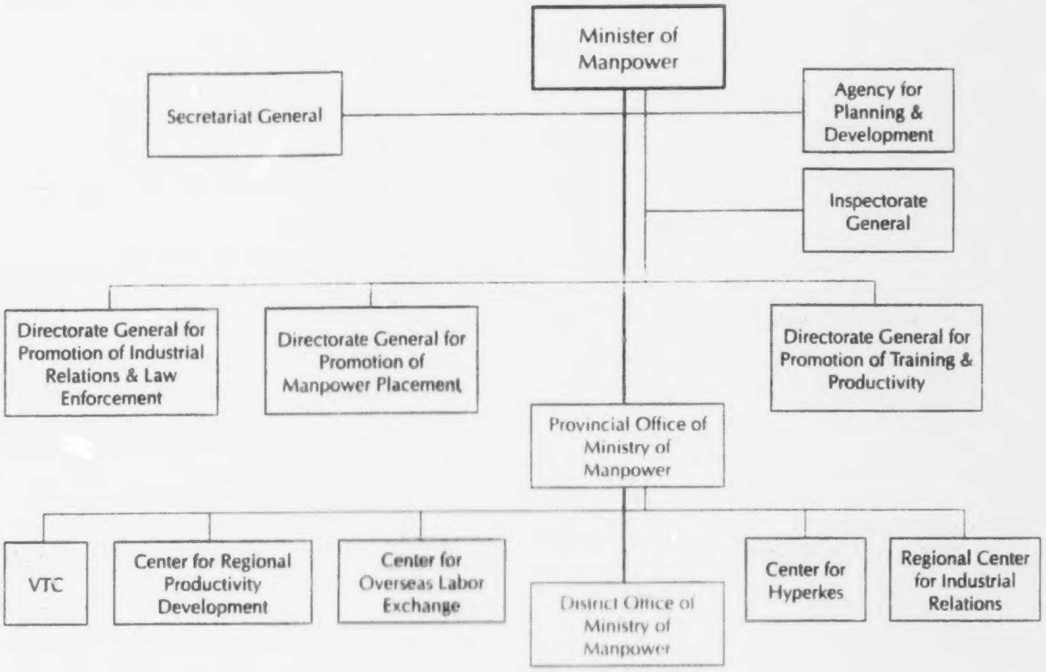
3 Undertaking research and development relevant for the improvement of skills.

4 Giving recommendations and providing guidance to study groups.

BLK guidance

BLK guidance is conducted by the provincial and regional offices of the Ministry of Manpower (MoM), while technical support is provided by the Directorate-General for Promotion of Training and Productivity through the Directorate of Standardisation, Directorate of Development of Institution and Facility, Directorate of Development Instructor and Trainers.

Figure 10: Levels of support


Minister of Manpower
Secretariat General
Agency for Planning & Development
Inspectorate General
Directorate General for Promotion of Industrial Relations & Law Enforcement
Directorate General for Promotion of Manpower Placement
Directorate General for Promotion of Training & Productivity
Provincial Office of Ministry of Manpower
VTC
Center for Regional Productivity Development
Center for Overseas Labor Exchange
District Office of Ministry of Manpower
Center for Hyperkes
Regional Center for Industrial Relations

Accreditation of apprenticeship schemes

Similar to BLK guidance, support of apprenticeship programmes is conducted by the provincial and regional offices of the Ministry of Manpower (MoM), while technical support is provided by the Directorate-General for Promotion of Training and Productivity through the Directorate of Apprenticeship Development.

Notes

2 Please refer to annex 1 Jalur Pendidikan UU No. 2 Tahun 1989 Pasal 10 ayat (1) (Bahasa Indonesia).

3 Please refer to annex 1 Jalur Pendidikan UU No. 2 Tahun 1989 Pasal 10 ayat (1) (Bahasa Indonesia).

4 For further details refer to annex 2 Number of schools pupils/students and teachers sorted by Education level and ministry (Academic Year 1995–96).

5 The Indonesian government intends to complete the process of extending compulsory education from six to nine years by the year 2000.

6 This phase usually lasts three years, but for some vocational schools it is four years.

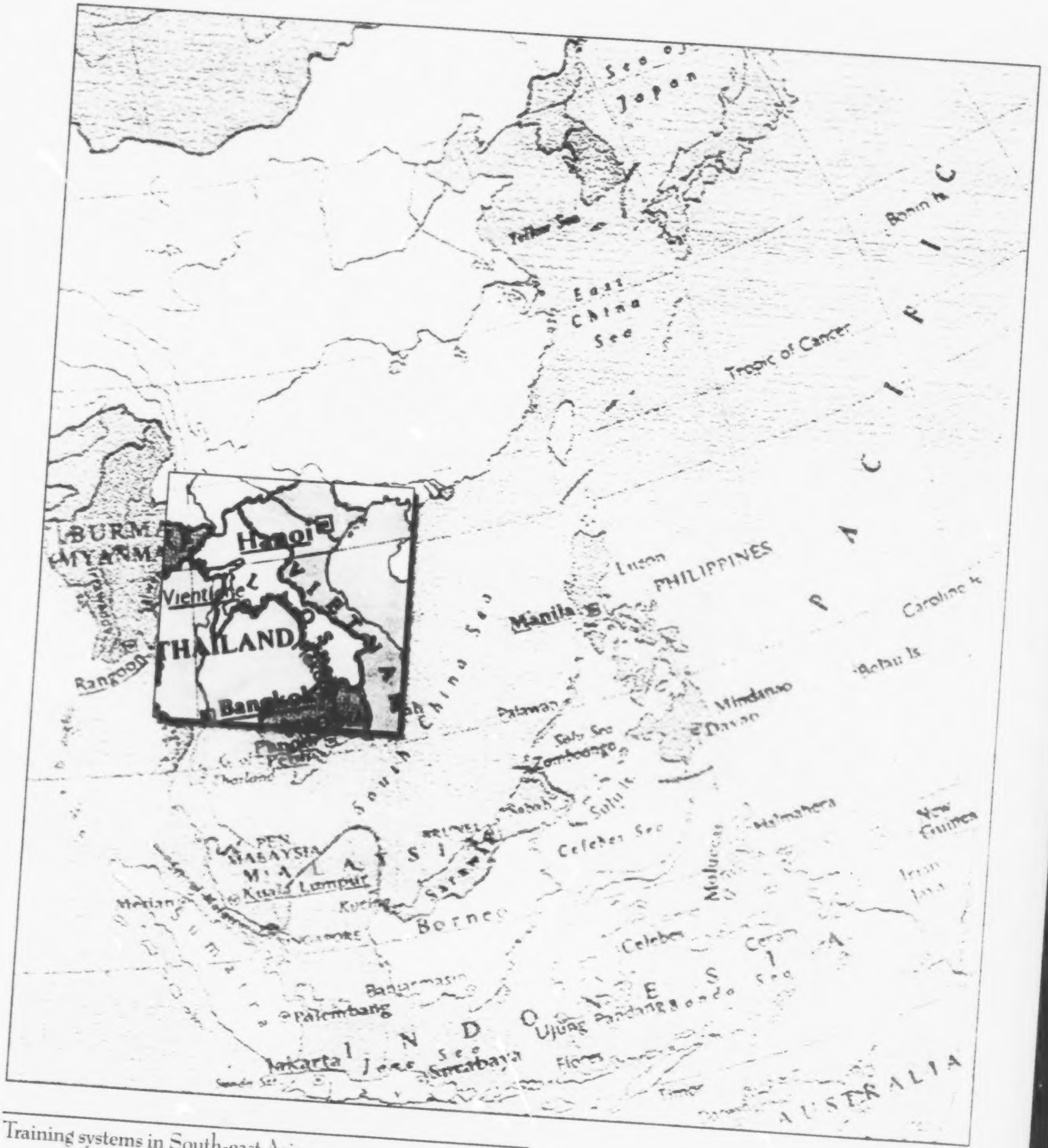
7 Number of public and private pupils/students by field of study and type of school (Academic Year 1995–1996)

Level	Total	Public schools	Private schools
Kindergarten	1 649 145	8 370	1 640 775
PS Level	29 447 990	24 249 853	5 198 137
JSS Level	8 403 171	5 038 492	3 364 679
SSS Level (General)	3 027 462	1 620 772	1 406 690
SSS Level (Vocational)	1 648 482	500 253	1 148 229
HE Level (Diploma Prg.)	1 584 068	521 395	270 639
HE Level (Graduate Prg.)	3 715 804	610 517	1 247 385

8 Jalur Pendidikan UU No. 2, 1989.

9 Leaflet PSG: Breakthrough for quality improvement of vocational secondary schools, MPKN, Jakarta, see annex 3.

10 Leaflet PSG: Breakthrough for quality improvement of vocational secondary schools, MPKN, Jakarta.


Sea of Japan
Yellow Sea
East China Sea
Tropic of Cancer
Bonin Is.
PACIFIC
BURMA
MYANMAR
Hanoi
Vientiane
LAOS
VIETNAM
THAILAND
Bangkok
Rangoon
Phnom Penh
G. of Thailand
Luzon
PHILIPPINES
Manila
Caroline Is.
Belau Is.
South China Sea
Palawan
Mindanao
Davao
Sulu Sea
Zamboanga
Sabah
Sulu Is.
Halmahera
New Guinea
BRUNEI
Celebes Sea
PEN. MALAYSIA
MALAYSIA
Kuala Lumpur
Sarawak
Kuching
Medan
Sumatra
Singapore
Borneo
Moluccas
Irian Jaya
Celebes
Ceram
Banjarmasin
Palembang
INDONESIA
Ujung Pandang
Banda Sea
Jakarta
Java Sea
Surabaya
Flores
Timor
Sunda Str.
AUSTRALIA

Training systems in South-east Asia

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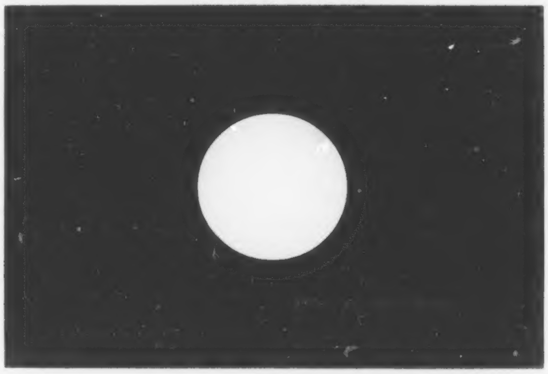
Lao People's Democratic Republic



Introduction[1]

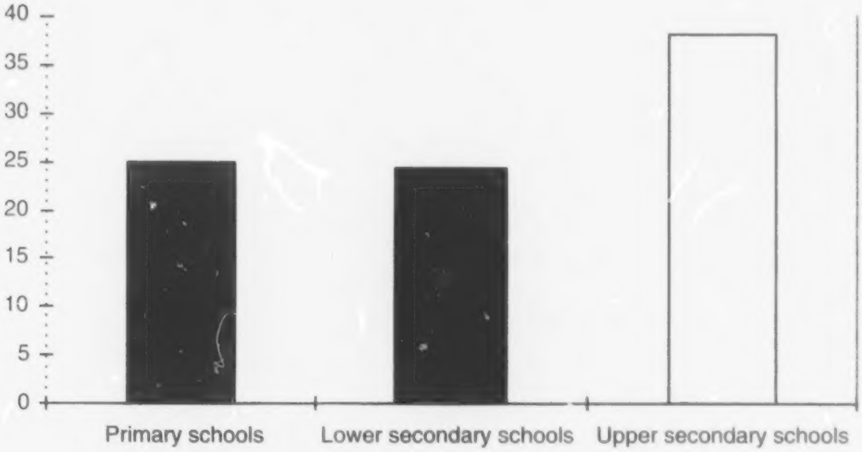
The Lao People's Democratic Republic (Lao PDR) is located in Indochina and extends northward from the Tropic of Cancer. It is bordered by Thailand, Myanmar, China, Viet Nam and Cambodia. The land area is 237 000 square kilometres, most of it mountainous and covered with forests. The major river is the Mekong, which for much of its length forms the border with Thailand. The capital, Vientiane, is located near the Thai border.

The Lao PDR was founded in 1975 after a long struggle. In 1986 the Lao government launched the New Economic Mechanism, designed to move the economy from a centrally planned and controlled system to a mixed system with a commercial orientation and market mechanisms. This reform process has continued, extending to many areas of government, including education and training.

During the 1990s the Lao economy grew at a rapid rate, stimulated by the government's economic reforms and an inflow of foreign investment. Although the country is rich in natural resources (for example, minerals and timber) the major economic activity is agriculture. However, mining, forestry, furniture manufacture and hydroelectric power are important industries.

The population of about 4.6 million includes a large number of different ethnic groups, with many of the tribal and ethnic groups speaking dialects. The official language is Lao but English and French are also used for business and international communications. Population density (about 20 people per square kilometre) is one of the lowest in the south-east Asian region. Population growth is currently about 2.4 per cent per annum, and the population is expected to double in 27 years. As a result of this growth rate children comprise a relatively high proportion of the population, with 44 per cent under 15 years of age. Life expectancy in the early 1990s was about 51 years.

Figure 1: Percentage increase in school enrolments, Lao PDR 1990–95



Adult literacy in the 1990s was relatively low at around 50 per cent, and this has been a serious impediment to expansion in education and training. However, the literacy situation is expected to improve with the recent expansion in numbers undertaking primary, secondary and other forms of education (figure 1). By 1995, close to 73 per cent of 6–10 year olds were enrolled at a school, an increase of 9 per cent on 1990–91.

The recent report by the International Labor Organization (ILO) East Asia Multidisciplinary Advisory Team concluded that economic progress in Lao PDR had been hampered 'by the fact that the skills delivered by the education and training system do not match job requirements', and by 'the slow and imperfect adaptation of the education and training system to the changes of skills demand in the labour market' (ILO 1997, p. 29).

Overview of the education and training system in Lao PDR

The various components of the Lao PDR education and training system can be summarised under seven broad categories:

	Typical qualification(s)
❖ General education	
❖ Higher education	Bachelor degree or higher technical diploma
❖ Technical education	Technical diploma or vocational diploma
❖ Vocational education	Advanced certificate
❖ Vocational training	Certificate
❖ Skill training	Attestation
❖ Non-formal education	Attestation

Further detail on each of these categories is provided in the diagram (figure 2) and in the notes which follow.

General education

This consists of five years of compulsory primary education, three years of lower secondary education, which is compulsory, and a further three years of upper secondary education. General education is undertaken at regular government schools or accredited private schools.

Higher education

Higher education is generally undertaken after 11 years of general education. It consists of 5–7 years of university-level education at the National University of Lao (for bachelor degree), or three years of higher technical education at colleges (for higher technical diploma).

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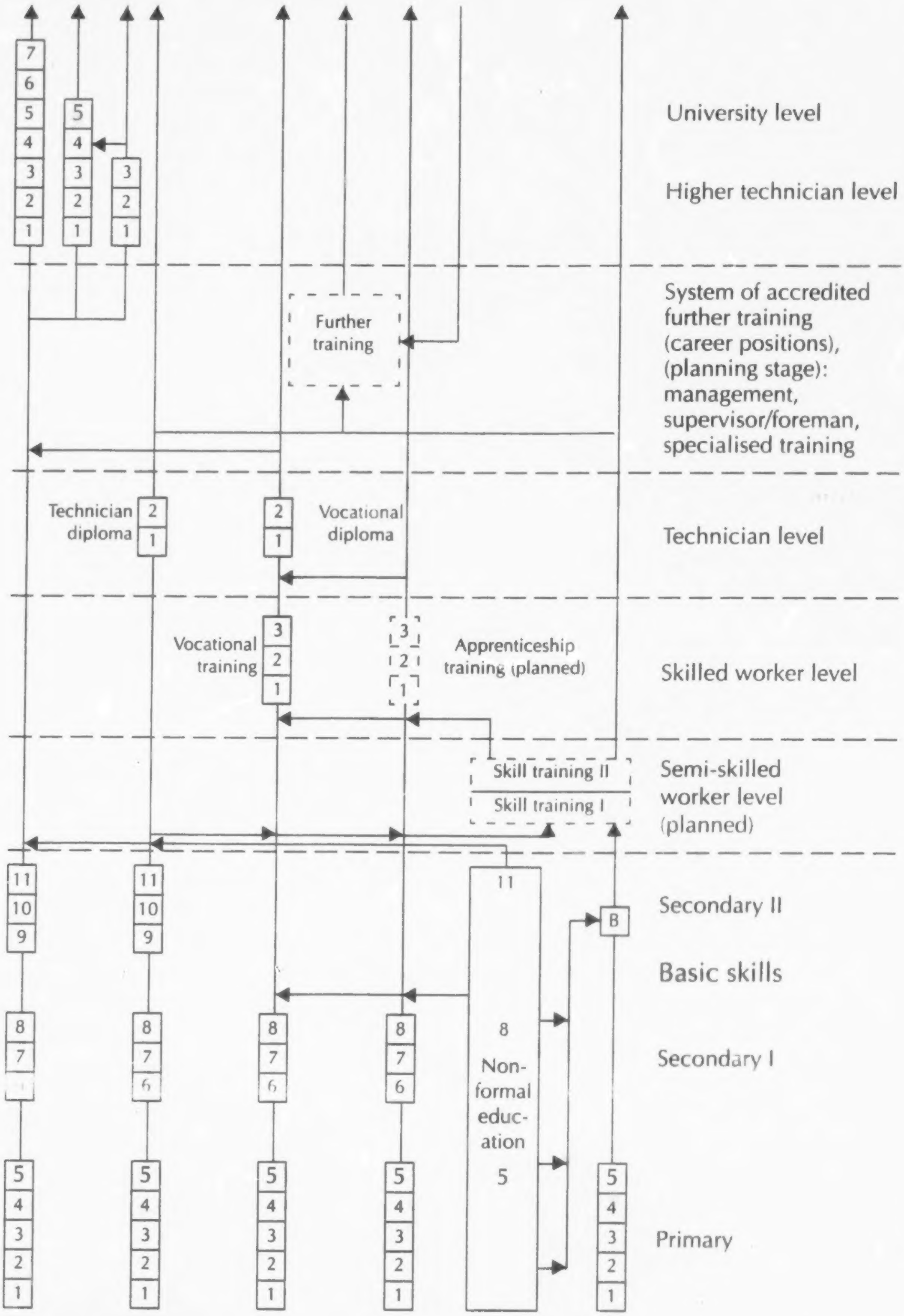
Figure 2: Lao PDR vocational education system



University level
Higher technician level
System of accredited further training (career positions), (planning stage): management, supervisor/foreman, specialised training
Further training
Technician diploma
Vocational diploma
Technician level
Vocational training
Apprenticeship training (planned)
Skilled worker level
Skill training II
Skill training I
Semi-skilled worker level (planned)
Secondary II
B
Basic skills
Non-formal education
Secondary I
Primary

Technical education

This consists of two years of technical education at regular government or accredited private technical schools after 11 years of general education (for the technical diploma), or at Vocational Education Level II (practically oriented technician level) it may consist of five years of vocational education after eight years of general education (for the vocational diploma).

Vocational education

Vocational Education Level I consists of vocational education at regular government or accredited private technical schools, vocational schools, training centres or other recognised training facilities (institutions). It comprises three years of vocational education after eight years of general education, and leads to the award of advanced certification.

Vocational training

Vocational training includes:

- Occupation-related training imparted at regular government or accredited certified private technical schools, vocational schools, and training centres.
- Apprentice-like training in firms, in-plant training, on-the-job training, learning by doing etc. There is no fixed general education level for entry, and training periods may vary from several months for structured training courses up to 2–3 years for the learning-by-doing system and apprenticeship-like training, mostly with a family business or extended to relatives.
- Skilled-labour level with less theoretical knowledge but work experience, aiming towards a final examination level as in Vocational Education Level I.

Programmes in the vocational training category lead to the award of a certificate.

Skill training

This consists of short-term courses for the planned, semi-skilled worker level. Courses are conducted at regular government or certified private technical and vocational schools, training centres, firms or agencies for specific routine work under supervision, in manufacturing and basic-level work. There is no fixed entry level and training periods are relatively short (typically 2–4 months).

Non-formal education

These activities are mainly initiated, co-ordinated or approved by government agencies to provide access to general education and partial skill training to those groups of people who did not have a chance to participate in or to complete formal, mainstream education. This applies particularly towards providing opportunities and programmes related to general education (grades 1–8/11) and to attain the general education levels needed to qualify for admission to training and study programmes at a later age.

Overview of the VTET system

As seen in the previous section, the Lao PDR VTET system is an integral part of the wider education and training system. There are various ways in which the general education system can articulate to the VTET system. Furthermore, there is a range of possibilities for people to access VTET or to upgrade their VTET qualifications or vocational skills (figure 3).

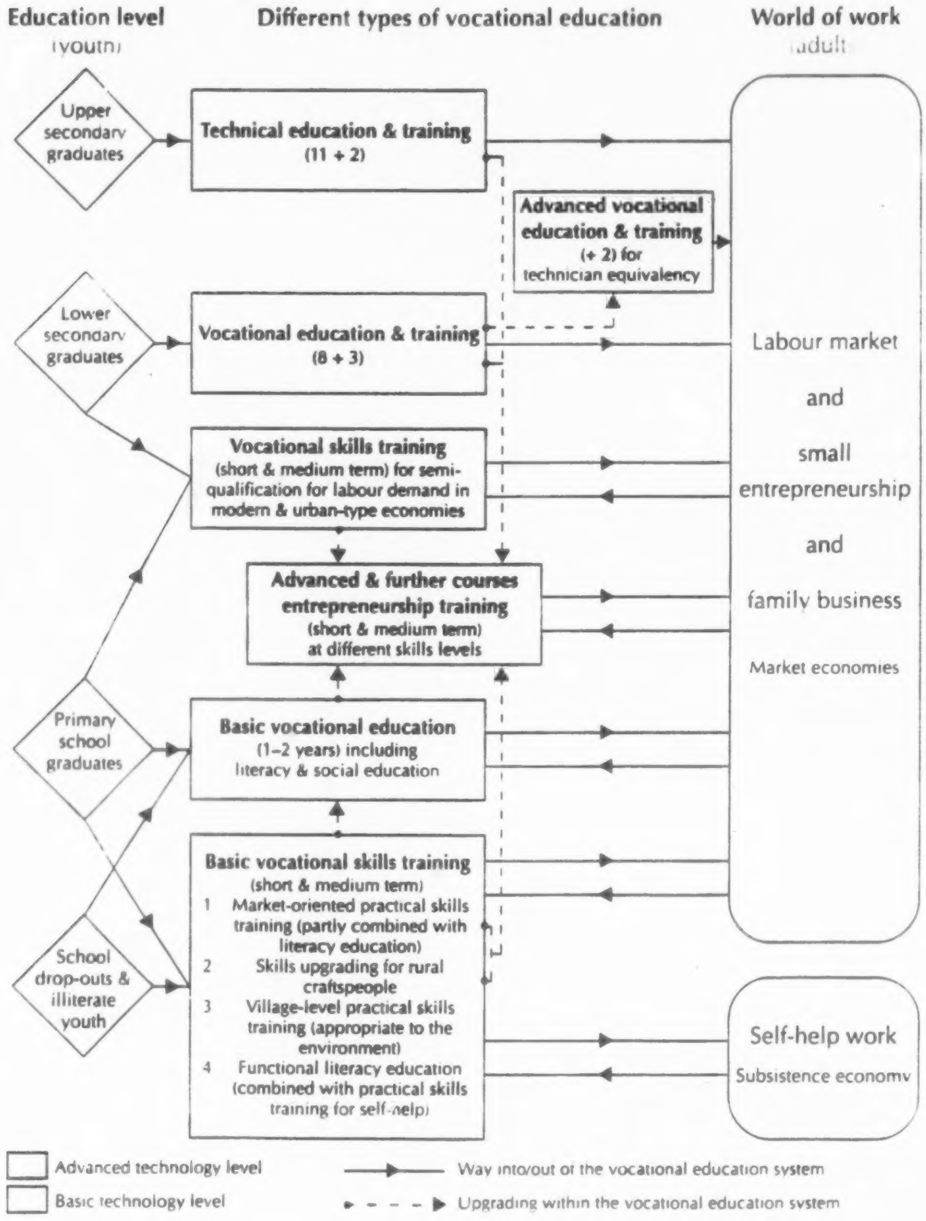
At any level, people may exit VTET to enter the labour market, family business or a small entrepreneurship.

Delivery of VTET programmes in Lao PDR is shared among government institutions and a small number (approximately 36) of private vocational institutions. In 1996 there were eight higher technical colleges, 25 technical colleges and 15 vocational schools, with a total enrolment of 14 500 students (ILO 1997, p. 95).

Responsibility for the government institutions is shared among a number of government agencies, including the Ministry of Education, the Ministry of Labour and Social Welfare, and the Ministry of Public Health. The Ministry of Information and Culture, the Ministry of Agriculture and Irrigation, the Ministry of Finance and the Ministry of Transport, Communication, Post and Construction also share the same responsibility. The Department of Labour (a part of the Ministry of Labour) also operates a short-term VTET centre in conjunction with the Municipality of Vientiane Labour and Social Welfare Division.

Major factors which contribute to the inadequate response of the system to changing economic demands include the number of government agencies involved, the absence of well-defined formal linkages between the various VTET institutions, and general shortage of resources and expertise.

Figure 3: Possibilities for access or upgrading in the Lao PDR vocational education system


Education level
(youth)
Different types of vocational education
World of work
(adult)
Upper secondary graduates
Technical education & training
(11 + 2)
Advanced vocational education & training
(+ 2) for technician equivalency
Lower secondary graduates
Vocational education & training
(8 + 3)
Vocational skills training
(short & medium term) for semi-qualification for labour demand in modern & urban-type economies
Advanced & further courses entrepreneurship training
(short & medium term)
at different skills levels
Primary school graduates
Basic vocational education
(1–2 years) including literacy & social education
School drop-outs & illiterate youth
Basic vocational skills training
(short & medium term)
1 Market-oriented practical skills training (partly combined with literacy education)
2 Skills upgrading for rural craftspeople
3 Village-level practical skills training (appropriate to the environment)
4 Functional literacy education (combined with practical skills training for self-help)
Labour market
and
small
entrepreneurship
and
family business
Market economies
Self-help work
Subsistence economy
Advanced technology level
Basic technology level
Way into/out of the vocational education system
Upgrading within the vocational education system

Source: Ministry of Education (1997)

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Skills maps and skills standards

At present the Lao PDR does not have a national skill standards and certification system. With the exception of apprentice-like training in firms, in-plant training, on-the-job training, and 'learning by doing', VTET is generally based on a formal curriculum with assessments and assessment standards monitored by the Ministry of Education. Occupational skills maps and skills standards of the kind recently introduced in the Philippines, for example, are not formally a part of the Lao VTET system but may be present, implicitly, in some training programmes.

In the view of the ILO East Asia Multidisciplinary Advisory Team, the curricula on which training programmes are based are 'outdated' and the training programmes themselves 'do not respond to the needs of the economy'. However, in Lao PDR the need for a national skill standards and certification system is well understood, prompted by demand for skilled workers for major projects funded from abroad.

As an interim measure, pending the development of an integrated strategy for VTET, an agency under the Department of Labour, the Lao Employment Services Company (LESCO), has been authorised to undertake skill testing, skill upgrading and certification for workers on large projects and workers for overseas employment. Because of a shortage of resources and expertise, LESCO has had very limited success in this area of its operations.

A Skills Development Project for Lao PDR, sponsored by the Asian Development Bank, was expected to begin during 1998 (ILO 1997, pp. 79–80).

Major organisations involved in VTET and their roles

Overall responsibility for education and training in Lao PDR rests with the Ministry of Education. Within the Ministry are a number of departments and agencies which have responsibility in specific areas, for example, the Department of Non-formal Education (NFE), the Higher VTET Department and the Bureau of Private Education (see below).

The Ministry of Education is directly responsible for 14 VTET schools and colleges, including a number of faculties of the National University of Laos which deliver VTET programmes. These providers cover most areas of the VTET curriculum and issue qualifications at skilled worker, certificate, technician and diploma levels (table 1).

Table 1: VTET providers under supervision of the Lao PDR Ministry of Education

		Qualification/ skill level	
Provider name	*Train students in the following areas:*	*Skilled worker, Certificate*	*Technician, Diploma*
Pakpasak College	Carpentry, masonry, accounting		✔
	Automotive mechanics, general mechanics, electrician, welding & plumbing, electronic, sewing, food & hotel	✔	
Lao-German Technical School	Automotive technology, welding & plumbing, electro-technique, metal machining		✔
Polytechnic College	Electro-technique, mining, mineral-survey, metal machining		✔
Agriculture College, Dongkhamxang	Agriculture, farming, forestry		✔
Technical School, Vientiane Province	Accounting-finance, agriculture		✔
	Masonry, carpentry, sewing, food & hotel	✔	
Technical School, Savannakheth	Accounting, automotive mechanics, general mechanics, masonry		✔
	Accounting, food & hotel, electro-technique, carpentry, welding	✔	
Transport & Communication College, Savannakheth	Road & bridge construction		✔
	Survey		✔
Vocational School, Khammouane	Carpentry, masonry, food & hotel, sewing	✔	
Vocational School, Champasak	Carpentry, masonry, automotive mechanics, welding & plumbing, electro-technique, sewing, accounting	✔	
Vocational School, Louangprabang	Accounting, electro-technique, welding & plumbing, carpentry, masonry, automotive mechanics	✔	
Faculty of Architecture, National University of Laos	Building & construction		✔
	Drafting		✔
Faculty of Transport & Communication, National University of Laos	Transport		✔
Faculty of Irrigation, National University of Laos	Irrigation		✔
Vocational Education Development Center	Research on VTET		
	Curriculum & instructional media development		
	Train & upgrade VTET teachers, admin. staff & managers		

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Table 2: VTET providers under supervision of other Lao PDR ministries

		Qualification/ skill level	
Ministry & provider name	*Train students in the following areas:*	*Skilled worker, Certificate*	*Technician, Diploma*
Ministry of Public Health			
Champasak Nursing School	Nurse		✔
Louangprabang Nursing School	Nurse		✔
Khammouane Nursing School	Nurse		✔
Savannakheth Nursing School	Nurse		✔
Vientiane Nursing School	Midwife, medicines, health science, nurse, massage		✔
Ministry of Information & Culture			
National College of Art	Art		✔
Music College	Dance, inter-music, Lao music, singing		✔
Louangprabang School of Art	Five training areas (details not available)		✔
Savannakheth School of Art	Five training areas (details not available)		✔
Ministry of Agriculture & Irrigation			
Louangprabang Agriculture School	Plantation, livestock, forestry		✔
Champasak Agriculture School	Plantation, livestock, forestry		✔
Horikhamxay Forestry School	Forestry (other details not available)		✔
Ministry of Agriculture & Irrigation			
Finance College Dongkhamxang	Finance (other details not available)		✔
Ministry of Transport, Communication, Post & Construction			
Post College	Specific details not available		✔

The Lao PDR Ministry of Labour operates facilities for short and medium-term advanced and further-training courses at different skill levels.

A number of other ministries have supervision of VTET providers in areas which are related to the major responsibilities of each ministry. These are Ministry of Public Health, Ministry of Information and Culture, Ministry of

Agriculture and Irrigation, Ministry of Finance and Ministry of Communication, Post and Construction (table 2).

In addition, there are 36 private vocational schools, approved by the Ministry of Education through its Bureau of Private Education (BPE) (see below), which offer both long- and short-term training courses.

The VTET certification system

The basic model

The basic model is one of central regulation and control, though with provision for greater input and participation by the private sector than in the past.

Although not formally described as a 'qualifications framework', the levels of certification in the Lao VTET system have a number of features in common with the national qualifications frameworks which have been implemented in countries such as the United Kingdom and Australia. An important difference, however, is that the 'framework' does not extend in a formal way to the school and higher education systems.

On the other hand, articulation of the VTET system with the school system is clearly part of the basic model, and certificate-level VTET qualifications are regarded as two to three years above the lower secondary school level, which is equivalent to eight years of schooling.

Articulation of VTET qualifications with higher education is not a major feature of the basic VTET model. The entry to higher education is principally via completion of 11 years of schooling. However, alternative pathways do exist, for example, from the Vocational Diploma to higher education and from non-formal education equivalent to 11 years of schooling to higher education.

Certification authorities

VTET qualifications are issued by government providers and by accredited private providers. The source of this authority is the Ministry of Education. For newly established private providers, the Supervisory and Accrediting Committee established to monitor each school to ensure compliance with the authorised standards must approve the qualifications issued by the school.

Types and levels of qualifications

The following qualifications currently exist in VTET in Lao PDR:

- Higher Technical Diploma (higher education qualification)
- Technical Diploma or Vocational Diploma (technical education qualifications)
- Advanced Certificate (vocational education qualification)
- Certificate (vocational training qualification)

These qualifications are issued on successful completion of the relevant course or training programme. An attestation (often called a 'statement of attainment' in other countries) is generally issued by the training provider for other forms of skill training and non-formal education in VTET.

With the partial exception noted earlier, formal arrangements have not as yet been made in VTET for recognition of prior learning, recognition for subjects successfully completed elsewhere, or for qualifications completed overseas.

Standards for certification

As noted previously, Lao PDR has not as yet implemented a national skill standards and certification system. At present the standards for certification are derived from the formal curriculum and associated assessments for the specific VTET programme, with assessment standards monitored by the Ministry of Education. Consequently, the standards for certification are more likely to be of the older, normative form (based on examination marks and grades) than the more recent skills form (based on meeting pre-defined criteria for a set of competencies).[2]

Quality assurance

For government schools, and those non-government schools which use the same curriculum and test items or evaluation questions in final examinations, quality assurance is promoted through the use of Ministry of Education curriculum, assessments and examinations. Separate, specific quality assurance processes apply to those vocational schools which do not follow the Ministry of Education's curriculum for government schools, and these are described in later sections. The Bureau of Private Education (BPE) is required to monitor all private schools regularly to ensure that they maintain their standards, including certification standards.

Accreditation of VTET programmes

Types of accreditation

In Lao PDR, VTET programmes are developed and accredited in one of two possible ways:

- by the Ministry of Education or other government agencies
- by private schools or other non-government bodies, and approved by the Ministry of Education

In the case of private schools, the accreditation of VTET programmes is often undertaken as part of the broader process of accrediting the school as a certified provider.

Quality assurance

In Lao PDR there are vocational schools which do not follow the Ministry of Education's curriculum for government schools and require the appointment of an External Examination Committee to make certain that academic standards are at the same level as those of similar types of government schools. These schools have their own curriculum approved by the Ministry of Education. At the end of the school year when final examinations are to be given, a school in this category has to send the test items or evaluation questions to the External Examination Committee for approval. The grading of final examinations may also be subject to review by this committee.

There is no need to have an External Examination Committee for those private schools which follow the Ministry of Education's curriculum for government schools in either general or vocational education, as long as they use the same test items or evaluation questions in final examinations as are used in the government schools.

For newly established private schools, a Supervisory and Accrediting Committee is set up to monitor the implementation of the school's establishment, including its VTET programmes. If, after the period of appraisal, the committee is satisfied with all the work of a private school, the Ministry of Education will grant full accreditation to the school and its programmes. However, the BPE must monitor all private schools regularly to assure that they maintain their standards. Academic quality standards for private schools are treated under the broader heading of quality assurance for VTET providers.

Accreditation authorities

The accrediting authority for VTET programmes is the Ministry of Education. For private schools the Ministry receives advice from the Supervisory and Accrediting Committee for each school and from the BPE.

Sanctions

If the results of the Supervisory and Accrediting Committee's appraisal are not satisfactory, approval of the diplomas or certificates of a specific group of graduates can be granted on the condition that a pattern of sufficient improvement can be seen in the following year. If a private school cannot meet the standards or requirements again in the second or third year, the Minister of Education can suspend admission of students in the following year.

Accreditation of VTET providers

Following a technical assistance project funded by the Asia Development Bank the Prime Minister's Decree on Private Education provided for the development of draft rules and regulations to foster the controlled and orderly growth of private education in the Lao PDR. Private schools did exist previously but were established and authorised under different conditions.

The accreditation procedures for private schools do not apply only to VTET: they encompass primary and secondary education, vocational education, and higher education.

The accreditation process

Accreditation is seen as a process of judging whether or not an educational institution meets the requirements of the Ministry of Education for private schools. In order to establish a private school in the Lao PDR the BPE requires at least the following information:

- educational standards
- ownership
- opening of the school
- organisation of the school
- teacher qualifications, recruitment and salaries
- curriculum and instructional materials

- evaluation and testing
- student admission and discipline

School buildings must conform with Ministry of Education standards for the level and type of educational activity. The permission granted by the Ministry must be implemented within six months.

Quality assurance

The BPE is required to determine whether or not each school meets the standards for schools of that particular type and level. This is described in more detail in the following sections.

Accreditation authorities

The Ministry of Education is the accrediting authority for VTET providers.

The BPE makes recommendations to the Ministry. The BPE must take steps to make certain that documents submitted for review are processed efficiently and in a reasonable amount of time. It is responsible for monitoring and follow-up.

In the capital, Vientiane, the BPE deals directly with proposers. In the provinces, documents are submitted to the District Office and forwarded to the BPE.

Criteria for accreditation

Anyone seeking permission to set up a school is required to:

- prepare and submit to the BPE a Proposal to Establish a Private School
- show ownership or leasing of the land lasting at least ten years
- provide details of the curriculum for each and every subject to be taught
- provide details of the school's regulations

More detailed standards have been drafted. For example, for private vocational schools at certificate level the following standards have been proposed:

- space—a minimum of 2400 square metres for commerce or business, arts and handicrafts, or home economics schools, and at least 3,200 square metres for industrial work schools

- building and grounds—the construction plans for buildings must be approved by the Ministry of Education; space in each classroom must be at least 6 x 8 metres; there must be office room, teachers' rooms, a headmaster's room, library, nursing room, science laboratory and dining room; and grounds must be not less than 600 square metres
- shops and equipment—different minimum spaces are required for different kinds of vocational schools
- teachers—must hold at least the Higher Certificate in Vocational Education or an associate degree in the area concerned. Teachers teaching non-vocational education in related subjects must hold at least an associate degree or equivalent in the area concerned.
- headmaster—must hold at least a Bachelor Degree in Vocational Education
- student/teacher ratio—there must be at least one teacher for every 35 students
- curriculum—this can follow the Ministry of Education's curriculum for government schools or be a new curriculum as approved by the Ministry of Education

Advantages of accreditation

Without accreditation, private VTET providers may not be permitted to enrol students and are not permitted to issue recognised qualifications. These restrictions would inevitably place non-accredited, private VTET providers at a serious commercial disadvantage.

New initiatives and developments

The arrangements to allow accreditation of private VTET providers in the Lao PDR are relatively recent and are part of the broader set of government initiatives designed to move the economy from a centrally planned system to a mixed system with a commercial orientation and market mechanisms. This reform process has continued, extending to many areas of government, including education and training. However, the full benefits of these reforms may not be felt in the VTET area until an integrated national system of skill standards and certification has been implemented.

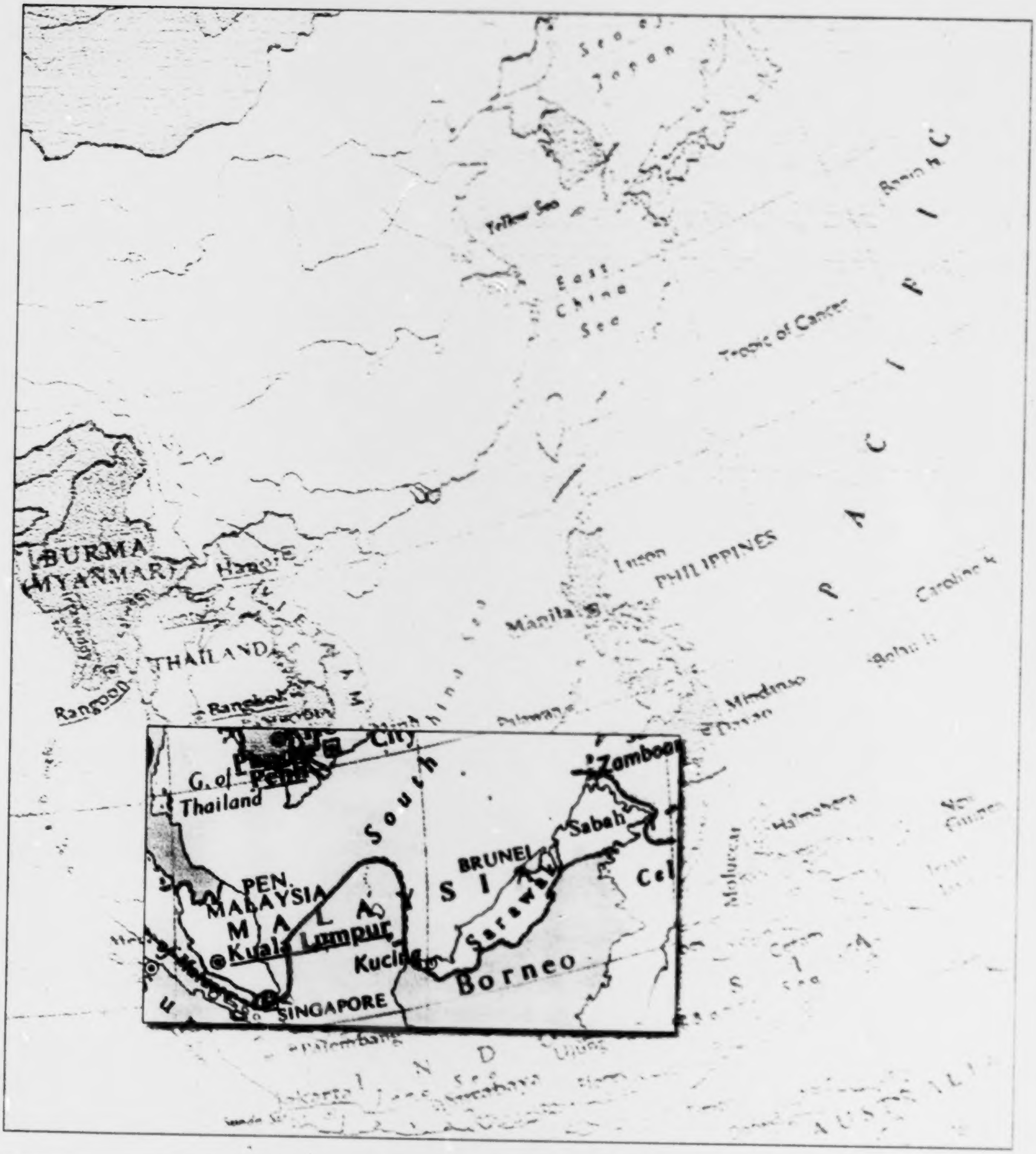
Apprentice training

As Lao PDR has developed from a predominantly agricultural background, traditional methods for training apprentices or craftpersons are rare. Formal arrangements for apprenticeship training involving a combination of on-the-job training in the workplace and off-the-job training at a VTET institution do not currently exist in Lao PDR. However, arrangements for this kind of training are sometimes made on an *ad hoc* basis between an employer and an employee.

Notes

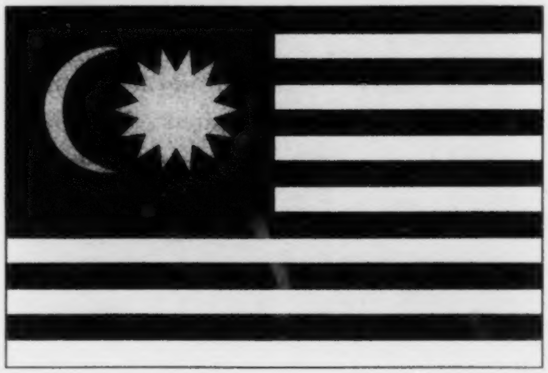
1 Source: Lao Embassy, Washington DC 1997 (www.laoembassy.com), and ILO 1997 pp. 25–29.

2 It is not proposed here to enter into the debate surrounding normative- versus criterion-referenced assessment or whether there is any effective difference between the two. It is sufficient to note that this is an area of ongoing debate among assessment experts.


Sea of Japan
Yellow Sea
East China Sea
Tropic of Cancer
PACIFIC
BURMA (MYANMAR)
Hanoi
VIETNAM
THAILAND
Rangoon
Bangkok
Luzon
PHILIPPINES
Manila
Palawan
Mindanao
Davao
Caroline Is
Palembang
Jakarta
Surabaya
AUSTRALIA
City
Phnom Penh
G. of Thailand
South
Zamboanga
Sabah
BRUNEI
PEN. MALAYSIA
MALAYSIA
Kuala Lumpur
Kuching
Sarawak
Borneo
SINGAPORE
Cel

Training systems in South-east Asia

Malaysia



Introduction

About the country

MALAYSIA IS COMPOSED of Peninsular Malaysia and Sabah and Sarawak in Northern Borneo, known as East Malaysia. Its population of 21.9 million (*Asiaweek* 7/10/98) is expected to grow at the rate of 2.2 per cent per annum. Malaysia is a very young society, with some 35 per cent of the population aged below 15 and just 3.7 per cent above 65 years. The remaining 61 per cent of the population are in the working-age category.

Malaysia is a multi-racial country, with Malays forming an estimated 62 per cent of the population, Chinese 27 per cent and Indians 8 per cent. The balance is made up of Europeans and ethnic groups (*Business Monitor International 1997*).

The official language is Malay; however, the people also speak and read English, Chinese, Tamil and some tribal dialects.

Religion is predominantly Islam. The others are Buddhists, Hindus and Christians.

Eighty-six per cent of male and 70 per cent of female Malaysians 15 years and over can read and write (*The World Factbook 1996–97*).

The chief of state of Malaysia is a titular king who is selected in rotation from among hereditary rulers of the various states. The head of government is the Prime Minister. The bi-cameral Parliament is composed of the *Dewan Negara* (Senate), consisting of 58 members—32 appointed by the king and 26 elected by the state legislatures for six-year terms and the *Dewan Rakyat* (House of Representatives), consisting of 180 members elected by state legislatures for five-year terms. The country is administratively divided into 13 states and two federal territories and the power of the state governments is limited by a federal constitution.

Economy

Over the last 25 years, Malaysia has moved from an agrarian economy to one that is driven by manufacturing and services. From 1988 to 1995, the economy posted an annual growth rate of about 9 per cent which was achieved through a combined effort of private enterprises and the public sector. Exports expanded rapidly and foreign investors continued to invest heavily in the economy. The government, aware of the inflationary potential of this rapid development, is closely monitoring fiscal and monetary policies (*The World Factbook*).

Unlike other East Asian economies which have high external debt, Malaysia has a relatively low external debt of US$45.2 billion or 42 per cent of GDP as at June 1997. The debt service ratio was only 6.1 per cent of exports as at the end of 1996. The banking sector was healthy, with non-performing loans (NPLs) at only 3.6 per cent of total loans as at June 1997. The national saving rate at 38.5 per cent in 1996 is one of the highest in the world.

The economic slowdown is reversing the situation and the lower GDP growth is giving rise to slower employment growth, rising unemployment, surplus labour, increasing retrenchment, decline in human capital investment, falling productivity and competitiveness, and crowding out by foreign workers.

Employment

Employment growth is expected to decrease by 1.8 per cent from 8.3 million in 1997 to 8.2 million in 1998. It will be slow or negative in many sectors, except for some manufacturing subsectors that are export-oriented.

The unemployment rate was expected to increase from 2.7 per cent in 1997 to 6.4 per cent (or 564 200 persons) in 1998. Despite retrenchments in some industries, there are requests from firms in the textile, electronic, furniture-making and rubber industries to hire additional workers. The retrenchments largely affect Malaysian workers rather than legal foreign workers. For instance, in April 1998, 93 per cent of the retrenched workers were Malaysians. There is the need for a mechanism to increase labour mobility and speed up the redeployment of workers

The following measures were recommended in the *National Recovery Plan: An agenda for action prepared by the Economic Planning Unit of the Office of the Prime Minister* to expand employment opportunities:

1 Increase employment creation and opportunities through encouraging more investment in industries that are export-oriented and require highly skilled labour. Revitalise the construction and infrastructure projects with multiplier employment effects.

2 Encourage self-employment through organised petty trading, farming and small businesses.

3 Assist consultancy firms in engineering and other technical fields to bid for international businesses.

4 Improve the mobility of labour through setting up electronic labour exchanges at the state and district levels, publication of vacancies, and having regular dialogues/working groups with industry associations to monitor retrenchment and vacancies.

5 Encourage flexibility in employment practices by reviewing provisions in the Employment Act 1955, and encourage industries to institute part-time employment, pay cuts, and reduction of working hours/shifts.

6 Encourage and increase training and retraining to be financed by HRDC, CIDB, Institute of Banks, and with a levy collected from foreign workers.

7 The Government should assist business organisations that can aggressively market and distribute Malaysian products and consultancy services in foreign countries. The warehousing and distribution facilities provided by Arshad Tamin in South Africa and Boustead Sdn, Bhd, in Myanmar are models to be emulated.

8 A stocktaking exercise should be undertaken to examine the current capacity of industrial training facilities in the public and private sectors, including those found in technology and industrial parks throughout the country.

Overview of the education and training system

Primary and secondary education

The development of human resources is a key element in Malaysian national development plans. In the sixth plan, expenditure for education and training was RM 7.6 billion with a 33 per cent increase indicated for the seventh plan. The government provides for universal primary and secondary education and has expanded opportunities for tertiary education.

The educational system follows the 6+3+2+2 system, meaning six years of primary schooling, three years of lower secondary, two years of upper secondary and two years of pre-university. Post-secondary technical education is available at government-funded polytechnics, colleges and institutes as well as privately-run institutions. Universal free education is available up to the secondary level and the official school-leaving age is 15 years old.

Primary education can be obtained in any of the three types of schools:

- the national primary school
- the national-type Chinese primary school
- the national-type Tamil primary school

These schools follow the New Primary School Curriculum(NPSC) and are subjected to a common public examination. The NPSC emphasises the acquisition of the basic skills in reading, writing, arithmetic and the overall development of talents and the fostering of moral, aesthetic and social values.

Secondary education is divided into three levels: lower, upper and post-secondary. The Integrated Curriculum for Secondary Schools (ICSS) is a continuation of the NPSC and emphasises the overall, integrated and harmonious development of the pupil and the inclination of good values to further enhance loyalty and love of country.

On completion of primary education, pupils enter the lower secondary level for three years. Pupils from Chinese and Tamil media primary schools spend a year in the Remove or Transition Class before entering Form 1. Promotion from one form to the next is automatic up to Form 3 and at the end of this level, pupils sit for the central examination known as the Lower Secondary Examination (LSE).

At the upper secondary level, pupils are channelled into either the academic or the vocational stream based on the LSE results. At the end of Form 5, pupils sit for the Malaysia Certificate of Education (MCE) examination or the Malaysia Vocational Certificate of Education (MVCE) examination. The MCE is equivalent to the General Certificate of Education (GCE) Ordinary Level.

After completion of upper secondary education, those qualified based on the results of the MCE examination are given two more years at the post-secondary level (Form 6 Lower and Form 6 Upper).

On completion of the post-secondary education, pupils sit for the Higher Education Certificate (HSC) examination. This is equivalent to the British GCE A-level. Performance at this examination determines entrance to local as well as accredited foreign universities and colleges.

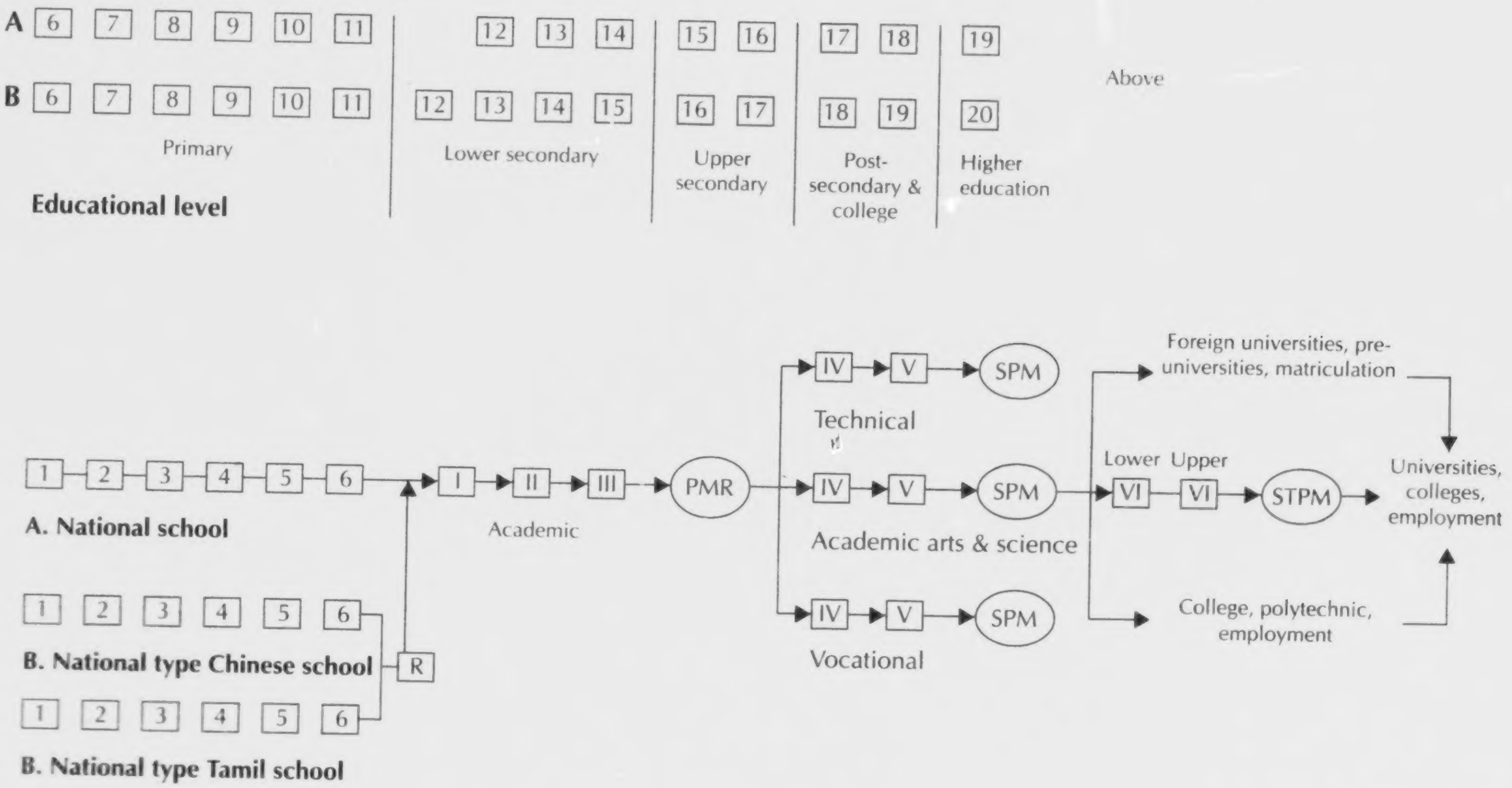
Figure 1 shows the education system in Malaysia. The Malaysian language is the primary medium of instruction at all levels of education.

Overview of the VTET system

The formal technical and vocational education system starts at the upper secondary level, consisting of secondary vocational and technical schools. The secondary vocational schools offer a course structure that covers the same core subjects as in other upper secondary academic schools. In addition to these core subjects, the vocational school student selects a group of vocational subjects in accordance with the vocational course he is following. Vocational studies make up about 50 per cent of the total course content in the secondary vocational school. In the secondary technical schools, the subject offerings are more science- and mathematics-based, while technical subjects offered are less practical in nature. The primary objective of technical schools is to provide a good foundation in technical education, to enable students to further their studies, particularly in engineering and commerce.

Figure 2 shows the technical and vocational pathways in the Malaysian education system.

Figure 1: Malaysian educational system


A
B
6
7
8
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10
11
12
13
14
15
16
17
18
19
20
Primary
Lower secondary
Upper secondary
Post-secondary & college
Higher education
Above
Educational level
1
2
3
4
5
6
A. National school
B. National type Chinese school
B. National type Tamil school
R
I
II
III
Academic
PMR
IV
V
SPM
Technical
Academic arts & science
Vocational
Lower
Upper
VI
STPM
Foreign universities, pre-universities, matriculation
College, polytechnic, employment
Universities, colleges, employment

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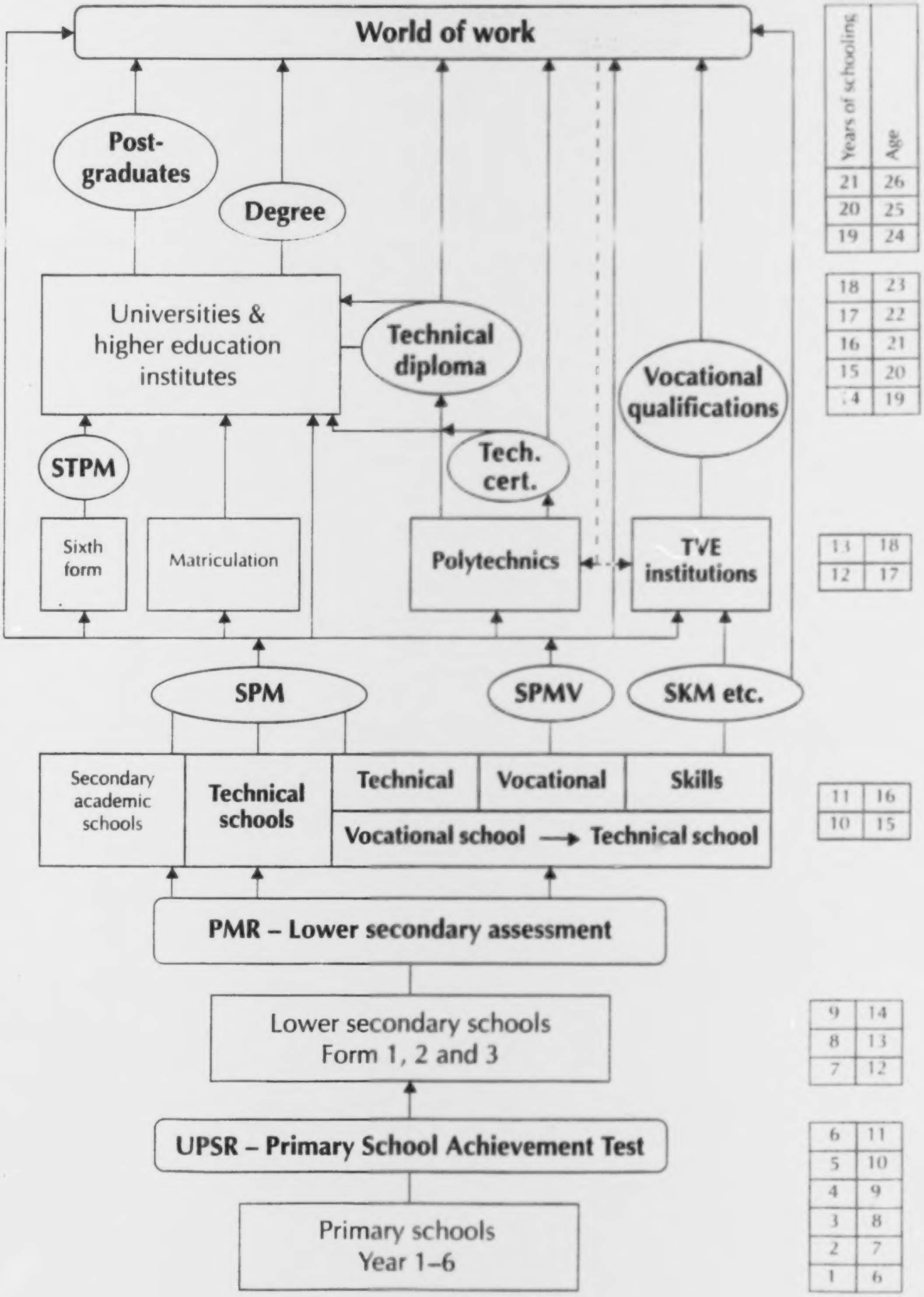
Figure 2: Technical and vocational pathways in the Malaysian education system


World of work
Post-graduates
Degree
Universities & higher education institutes
Technical diploma
Vocational qualifications
Tech. cert.
STPM
Sixth form
Matriculation
Polytechnics
TVE institutions
SPM
SPMV
SKM etc.
Secondary academic schools
Technical schools
Technical
Vocational
Skills
Vocational school → Technical school
PMR – Lower secondary assessment
Lower secondary schools Form 1, 2 and 3
UPSR – Primary School Achievement Test
Primary schools Year 1–6
Years of schooling
Age
21 26
20 25
19 24
18 23
17 22
16 21
15 20
14 19
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12 17
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10 15
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6 11
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1 6

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Table 1: The current situation of VTET in Malaysia

Ministry	Managing agency	Institutions	Courses	No. of institutions (1997)	Student enrolments (1997)	No. of voc. teachers (1997)	Main issues and problems	Current measures
Ministry of Education (MOE)	Department of Technical Education	Secondary technical schools	a) Malaysian Certificate of Education – Technical Electives (SPM) b) Malaysia Vocational Certificate of Education (SPMV)	78	16 782	686	Shortage of tech. manpower	Build more TVE inst. Staff development
		Polytechnics	Full-time Technician Certificate (2 yrs)/ Diploma (3 yrs) in Engineering & Business: Marine Diploma (4 yrs)		22 085	1002	Staff & service issues Shortage of skill	
		Tun Hussein Onn Institute of Technology	Polytechnic staff training courses at diploma, degree and postgraduate levels	8	18 816	1264		Industrial linkages
	Teachers Education Division	Technical Teachers College	Technical Teachers Teaching Diploma (3 yrs)	1				
	Dept of Special Education	Vocational schools for special needs	na	1	1 239	103	Lack incentives Resistant to change Lack of mngmnt skill	Better salary scheme Quality teachers More training
Ministry of Human Resources (MOHR)	Manpower Department	Industrial training institutes	Basic trade skills (1–1.5 yrs) leading to SKM Level 1 or 2 certification. Some short courses	1	na	na	na	na
		Japan Malaysia Training Inst.		10	3 885	na	Sh[illegible]ge of instructors	na
		Centre for Instructor & Advanced Skill Training	a) 3-year Instructor Training Diploma b) Short course 1–3 weeks	1 1	na 159 na	na	na	na
	National Vocational Training Council (NVTC)	All accredited centres (other than MOE, MOHR, MSY and MED)	National Vocational Skill Standards & Certification – Malaysian Skill Certificate (SKM) Level 1–3	208	25 026	na	Sh[illegible]ge of instructors	Employ foreign instructors
Ministry of Sports & Youth (MSY)	Skill Development Branch	National Youth Training Institute	Basic trade skills (1–1.5 yrs) leading to SKM Level 1–3	7	3 400	na	Sh[illegible]ge of instructors	
		National Youth Advanced Skill Training Institute	Advanced & production-oriented training (1–2 yrs) leading to SKM levels 2–3. Short-term modular course	1				
Ministry of Entrepreneur Development	MARA (Council for the Indigenous)	MARA Skill Training Institutes	Skilled & semi-skilled trade courses (1–2 yrs) leading to SKM Level 1–2 and MARA Skill Certificates, National Trade Licensing Certificate, Higher National Diploma (HND)	11	8 574	647	1) Vocational teachers lack knowledge & skills in adv. tech. 2) No close linkages between training insts & industry	
		Giat centres	Pre-employment courses (6–12 mths) leading to Giatmara skill certificates	120	3 200	509		
		German Malaysia Institute	Advanced skilled technology courses (3 yrs) leading to industrial diploma	1	378	67		
		France Malaysia Institute	Advanced skilled technology courses (2–3 yrs) leading to industrial diploma	1	300	74		
		British Malaysia Institute	Advanced skilled technology courses (3 yrs) leading to industrial diploma	1	449	40		

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Presently there are 78 secondary technical and vocational schools with a total student enrolment of 38 867 and a teacher population of 1688. The student enrolment is about 15 per cent of the age cohort.

At the post-secondary level the training activities at both technician/sub-professional and craft levels are carried out by various government ministries, departments and agencies for specific needs. Organisationally, there are five clearly defined main providers:

- Polytechnics were established by the Ministry of Education (MOE) to produce trained manpower at the semi-professional level in various areas of engineering and commerce. At the certificate level, about 80 per cent of the students are following engineering courses while at the diploma level 50 per cent of the students are undergoing engineering courses. Female students make up about 25 per cent of the 18 816 total student population in eight polytechnics throughout the country. The number of technical lecturers is 1264 (table 1).
- The Ministry of Human Resources (MOHR) is the primary producer of medium and highly skilled workers. Industrial training is provided at ten industrial training institutes (ITI). These institutes offer courses in mechanical, electrical, building, printing and non-metallic trades. There are three schemes for industrial training: (i) the National Apprenticeship Scheme for industrial workers who are sponsored by their employers, (ii) the Trade Skill Certificate Course for school leavers who wish to acquire skills in specific trades, and (iii) customised courses for industrial workers upon request by employers. Student enrolment is 3886, number of teachers/instructors is 103 (table 1).
- The Ministry of Entrepreneur Development (MED) operates 11 MARA vocational skill institutes (IKM) for 8574 students with 647 teachers and one hundred and twenty MARA vocational centres (Giatmara) for 3200 students and 509 teachers. With the co-operation of public and private agencies, MARA also provides some joint international co-operation vocational training programmes which are operated through one German Malaysia Institute for 378 students with 67 teachers; one France Malaysia Institute for 300 students with 74 teachers, and one British Malaysia Institute for 449 students with 40 teachers (table 1).
- The Ministry of Youth and Sports (MYS) currently operates eight national youth apprenticeship and entrepreneurship institutes (IKBN) which provide skills training for 3400 out-of-school youth. Industrial courses are provided for 9 to 20 months according to National Vocational Training Council (NVTC) certification. On-the-job training in technical and vocational skills and entrepreneurship courses are also conducted (table 1).
- There are 208 public and private institutions under the co-ordination of the National Vocational Training Council (NVTC) currently approved as NVTC accredited centres to conduct Malaysian Skill Certificate (SKM) courses for 25 026 registered students. Included here are local and international companies providing VTET such as the automotive companies like PERODUA Training Centre, Tractors Malaysia Berhad, a number of hotel schools, the Electrical and Electronic Association of Malaysia and Sarawak Electrical Company.

Additionally however, there are also non-NVTC sub-professional certificate courses conducted by other public and private institutions (table 1).

The need for reform in vocational training

During the early 1990s, it became apparent that vocational training in Malaysia was no longer capable of meeting the skilled workforce needs of its fast-industrialising economy. The country's vocational training system then required fundamental re-orientation towards making it more flexible and responsive to the new challenges.

The search for a more effective framework for vocational training in Malaysia resulted, amongst others, in the decision of the National Vocational Training Council (NVTC) to overhaul the National Occupational Skill Standards and Certification System in December 1992 to:

- adopt a new five-level skills qualification framework to replace the existing three-tiered (basic, intermediate and advanced) skill certification system
- introduce the accreditation approach in national skill certification in place of the skill testing system

The reforms were fundamentally geared towards improving the quality and productivity of the country's skill workforce, thus enhancing the competitive position of the Malaysian economy at large. The changes also sought to strengthen the co-ordination of the multifarious vocational training activities undertaken in the country, and to better gear them towards meeting the actual needs of the Malaysian economy. The basic thrusts of the changes were:

- to reinforce the adoption of competency-based education learning (CBE/L) principles in vocational training in the country
- to make the national skill certification system in Malaysia more flexible, accessible and user-friendly

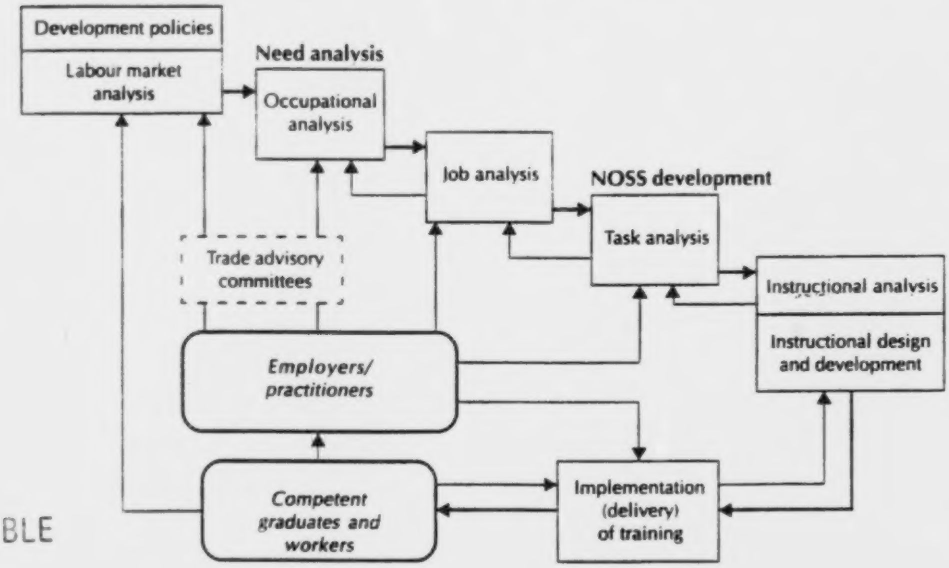
Shifting towards CBE/L

The adoption of the CBE/L approach in vocational training basically entails shifting the emphasis from an instructor-centred approach towards a trainee-centred approach. It involves the identification of distinct and verifiable competencies that are actually required in the world of work, and focusses on actual performances in assessing these competencies. Towards this end, the National Occupational Skill Standards and Certification System serves to bring about a vocational training system that contains the following features:

- competencies to be achieved in training for a particular job are identified by expert workers and practitioners, and clearly spelt out in National Occupational Skill Standards (NOSS)
- competencies are clustered around modules (called duties in NOSS) so that training, as well as assessment and certification, can be more flexibly packaged and undertaken
- assessment of competencies emphasises actual performance that is based on specified criteria
- self-paced learning increasingly becomes the norm in training, in which trainees progress at their own best rates, rather than be dictated by the instructor or group
- self-directed learning increasingly becomes a key feature of training, whereby trainees take greater responsibility for their learning, whilst instructors function as facilitators and resource persons

In facilitating the shift towards CBE/L, a model or framework for vocational training in Malaysia that encompasses the development of NOSS, linking industry and training providers, is shown in figure 3.

Figure 3: A CBE/L model for vocational training in Malaysia


Development policies
Labour market analysis
Need analysis
Occupational analysis
Job analysis
NOSS development
Task analysis
Trade advisory committees
Instructional analysis
Instructional design and development
Employers/ practitioners
Competent graduates and workers
Implementation (delivery) of training

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VTET qualifications are generally not accepted as prerequisites to local universities. Exemptions are, however, granted on a case-by-case basis depending on the skill certification level of the application. One pathway, however, is for skill certificate holders to enter local colleges such as the

German Malaysian Institute, the French Malaysian Institute and the British Malaysian Institute, which accept NVTC qualifications for entry into their courses.

Skills maps and skills standards

The National Occupational Skills Standards outlines the skills or competencies required of a worker in a skill area or occupation. It is also used as a reference in all aspects of training and assessment in the implementation of skills certification in Malaysia.

There are five levels of skills qualification, level one being the lowest and level five the highest. The Sijil Kemahiran Malaysia (SMK) or Malaysian Skills Certificate levels 1 and 2 are skills required in the operation and production level while SMK levels 3 and 4 are skills in the supervisory level. SMK levels 3 and 4 are equivalent to a polytechnic diploma or certificate. SMK level 5 or the Advanced Diploma/Advanced Diploma of Technology required at the management level is equivalent to an educational degree.

Major organisations involved in VTET and their roles

The following list shows the major VTET organisations:

- Human Resources Development Council (HRDC)—administers the Human Resources Development Fund
- National Vocational Training Council (NVTC)—established and maintains a co-ordinated and comprehensive system of vocational and industrial training in line with Malaysia's economic development goals and technological development needs
- Ministry of Human Resources
- Ministry of Education
- Lembaga Akreditasi Negara (LAN)—the National Accreditation Board, established under the Private Higher Education Act, formulates policies on the standard and quality control of courses of study and certificates, diplomas and degrees; sets, monitors, reviews and oversees the standard and the quality and determines the level of achievement
- Federation of Malaysian Manufacturers
- Construction Industry Development Board
- Ministry of Youth and Sports
- Public Works Department

- MARA
- Permanent Committee on Evaluation and Recognition of Qualifications

The VTET certification system

The new qualifications framework

The National Occupational Skills Standard (NOSS) outlines the skills or competencies required of a worker in a skill area or occupation. It is also used as a reference in all aspects of training and assessment in the implementation of skill certification in Malaysia.

A new five-level skill qualification framework for vocational training and certification, namely Sijil Kemahiran Malaysia (SKM) or Malaysian Skill Certificate level 1, 2, 3, 4 and 5 was introduced to replace the prevailing three-tiered (basic, intermediate, and advanced) system. The new framework was instituted in response to several policy recommendations contained in the *Report of the Cabinet Committee on Training 1991*, namely to:

- expand the accreditation system to include skills higher than the advanced level
- explore the possibility of accreditation for master craftsman so that there is a career path for skilled craftsman
- explore avenues for the upgrading of skilled workers to technicians and higher-level jobs for the NVTC certificate holders

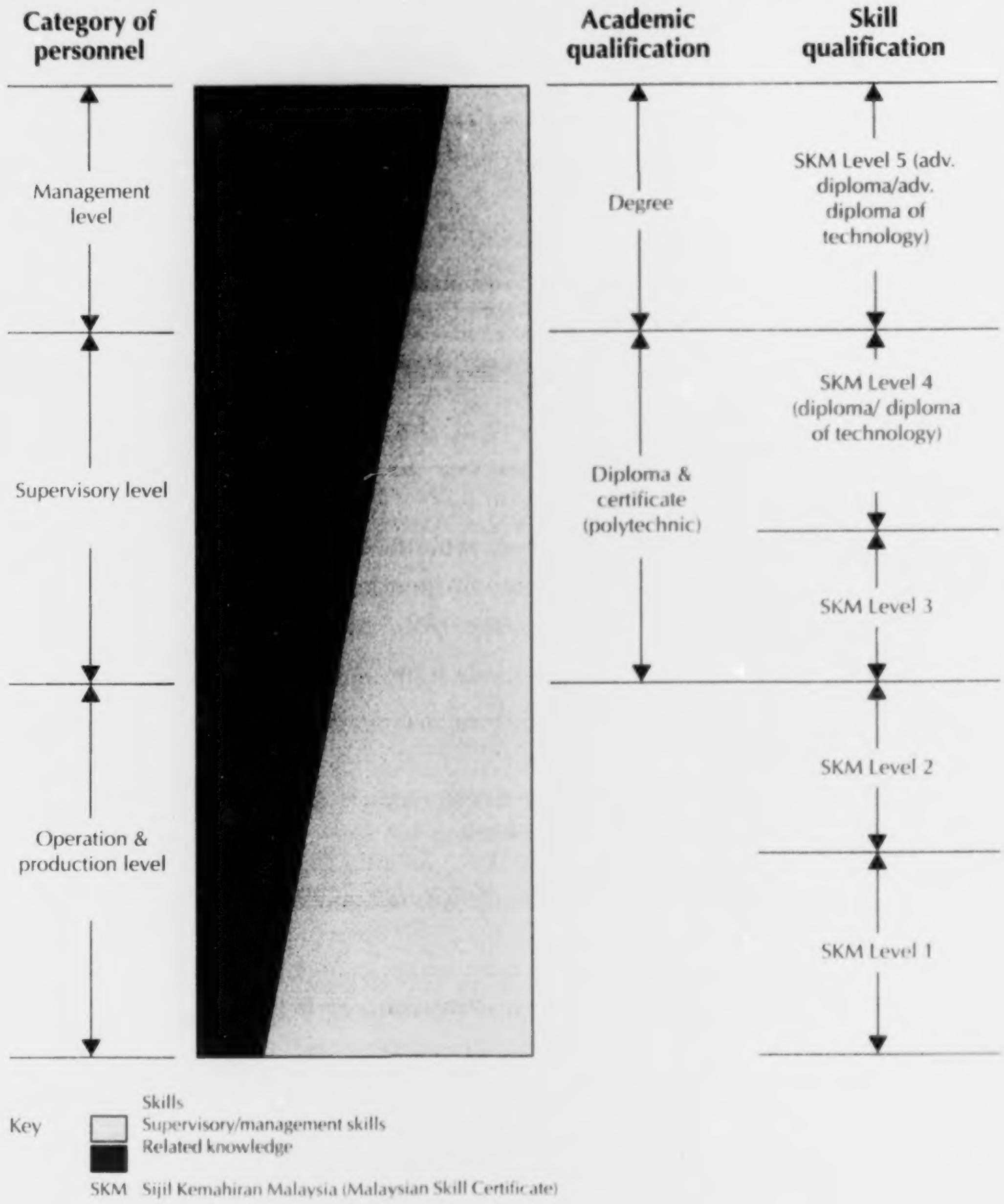
Figure 4 shows the qualification framework for national skill certification in Malaysia.

The accreditation of prior achievement was introduced in 1997 to allow the experience of skilled workers to be taken into account and awarded with the appropriate skill certification based on prior learning and achievement.

Certification authorities

The National Vocational Training Council (NVTC), under the Ministry of Human Resources, has the formal authority to issue recognised qualifications through the implementation of the national qualification framework based on the accreditation approach. The mandate is derived from the administrative government process, i.e. through a circular issued from the chief secretary to the Government acting on Cabinet directives.

Figure 4: Qualification framework for national skill certification in Malaysia



Category of personnel
Academic qualification
Skill qualification
Management level
Supervisory level
Operation & production level
Degree
Diploma & certificate (polytechnic)
SKM Level 5 (adv. diploma/adv. diploma of technology)
SKM Level 4 (diploma/ diploma of technology)
SKM Level 3
SKM Level 2
SKM Level 1
Key
Skills
Supervisory/management skills
Related knowledge
SKM Sijil Kemahiran Malaysia (Malaysian Skill Certificate)

Types and levels of qualifications

The qualification levels of SKM are as follows:

SKM level 1	Competent in performing a range of varied work activities, most of which are routine and predictable.

SKM level 2	Competent in performing a significant range of varied work activities, performed in a variety of contexts. Some of the activities are non-routine and require individual responsibility and autonomy.
SKM level 3	Competent in performing a broad range of varied work activities, performed in a variety of contexts, most of which are complex and non-routine. There is considerable responsibility and autonomy, and control or guidance of others is often required.
SKM level 4	Competent in performing a broad range of complex technical or professional work activities performed in a wide variety of contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and allocation of resources is often present.
SKM level 5	Competent in applying a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts. Very substantial personal autonomy and often significant responsibility for the work of others and for the allocation of substantial resources feature strongly, as do personal accountabilities for analysis and diagnosis, design, planning, execution and evaluation.

Apart from awarding the SKM (the Malaysian skill certificates), 'statements of achievement' are also awarded to individuals when they are deemed to be competent in a particular unit of competence (at the level of duties in each NOSS). Each of these statements represents one credit unit that can be accumulated until they suffice for the awarding of the relevant Malaysian skill certificates. Such credit units may also be transferable across different job areas, especially where generic skills are involved (thus enabling the operation of a system of credit accumulation and transfer as well).

Standards for certification

National Skill Standards

The National Skill Standards outline the skills required for a worker in a particular occupational area, in compliance with the following criteria:

1 All Malaysian Skill Certificates (MSC) must comply with the National Occupational Skill Standards (NOSS). These standards contain competency statements which clarify the skill needs for a particular skill area.

2 The responsibility to develop these skill standards rests with the Human Resource Development Council (HRDC) which will be advised by the Skill Advisory Committee and the Standards and Certification Committee.

3 Competencies stated in the skill standards must have a wide use such that:

  3.1 the wide range of skills have meaning and are relevant to the particular job sector

  3.2 skills can be compared with other areas within the same sector

  3.3 can be revised to meet the needs of new and future occupations

4 Should there be similar skill areas in other occupational sectors, HRDC will use the generic skill unit wherever possible.

5 In the preparation of the skill standards, HRDC will consider the inclusion of core skills.

Development of national skill standards

Skill standards are developed with the involvement of experts from (public and private) industry and personnel from agencies/training institutions, in accordance with their area of specialisation.

The skills standard are developed in two stages. The first stage involves eight to ten personnel from industry who are invited to take part in the development of the particular standard. They meet for two to three days and produce an occupational profile chart which contains two components: duties and tasks. During the meeting, representatives from training agencies are invited to attend as observers.

The chart is then distributed to the relevant industries involved in the respective areas for comments.

Subsequently, the second-stage committee involves the committee from the first stage together with members from training agencies/institutions especially those who were involved in the discussions to produce the occupational profile chart.

At this stage, the occupational profile chart containing duties and tasks is further detailed. A task profile is developed for each task which contains the final performance objective, enabling requirements, work procedures, tools and equipment, attitudes and safety.

A draft of the completed standard is submitted to the Standards and Certification Committee for approval before it can be used.

Format of the national skill standards

The National Skill Standards document contains the following:

- a standard title
- the occupational definition for the field
- the Occupational Profile Chart (containing list of duties and tasks)
- a task profile

Standard title

The standard title must reflect an occupational field in accordance with the contents of the particular standard.

Occupational definition

Each developed skill standards document must include the occupational definition in line with the standard title. Two sources of reference that can be used to aid the definition are the *Dictionary of Occupational Classification* (DOC) issued by the Manpower Department and *International Standard Classification of Occupation* issued by the International Labour Organisation (ILO).

Occupational profile chart

This chart contains a list of duties and tasks. An occupational area contains a group of clearly stated duties which are independent of each other and are the skill units in that particular occupational area. An occupational area usually contains eight to twelve duties.

Duties should be developed such that they can be evaluated and certified individually. This allows to record them as credits and to accumulate these credits.

Each duty contains a group of tasks. Usually, a duty has six to 30 tasks.

The tasks formulated must have the following characteristics. They

- have to consist of action verbs and objects receiving the action
- have to be clear and accurate
- can contain one or more qualifiers

Task profile

Each task that has been identified will be broken down and detailed by determining the final performance objective and listing the work procedures to carry out the task, tools and equipment needed, knowledge and attitudes needed, and safety considerations. All this information makes up the task profile for the particular task.

(Based on the translation of an excerpt of *Panduan Pelaksanaan Persijilan Kemahiran Malaysia Melaui Sistem Pentauliahan*)

Quality assurance

The NOSS is reviewed periodically to adapt/respond to changing demands. Based on the input from skill advisory committees, the NOSS is developed for a particular occupation by industry practitioners through the DACUM process.

The accreditation system

Accreditation for education and training programmes

The Lembagi Akreditasi Negara

The Lembaga Akreditasi Negara (LAN) was created to fulfil the objectives of the Private Higher Education Act and the National Accreditation Act.

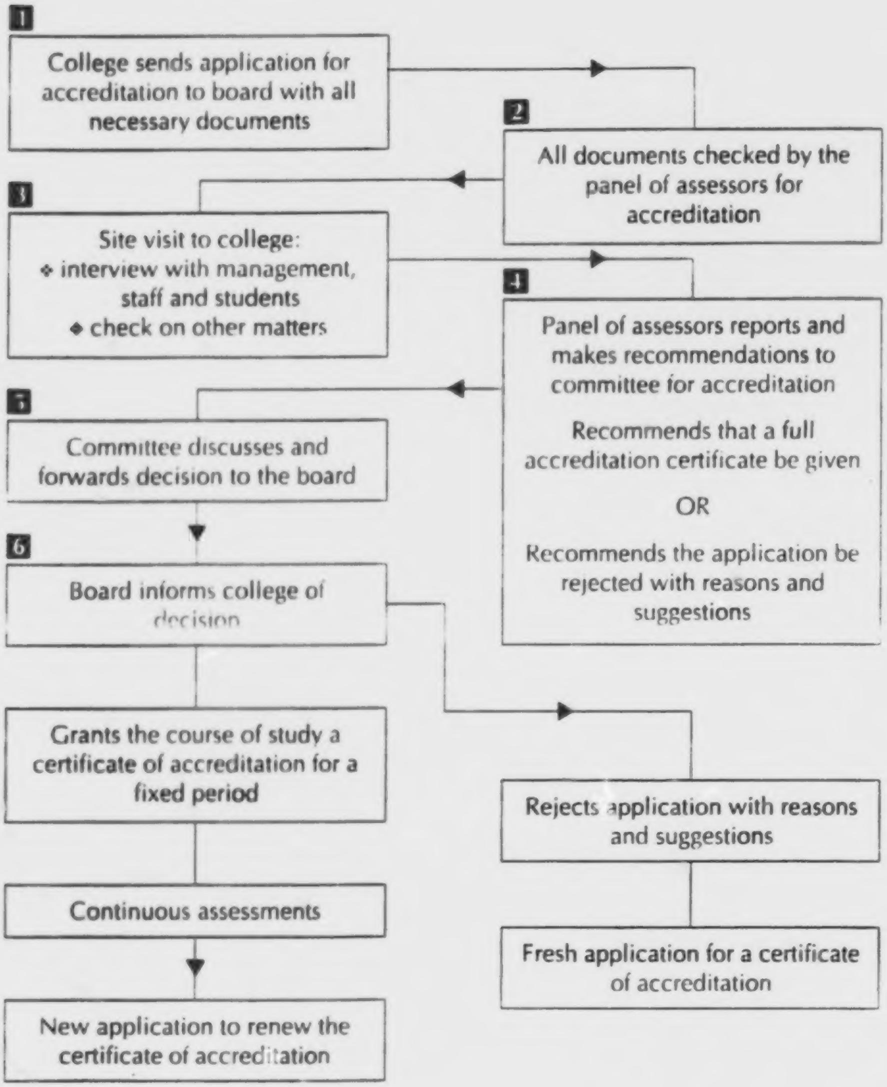
The functions of the LAN are to:

- formulate policies on the standard and quality control of courses of study and certificates, diplomas and degrees
- set, monitor, review and oversee the standard and quality of courses of study for accreditation of certificates, diplomas and degrees
- determine the level of achievement for the national language and the subjects specified in the Private Educational Institutions Act 1996 as prerequisites to the award of certificates, diplomas and degrees
- recommend to the Minister courses of study to be conducted by the private educational institutions with regard to the suitability of arrangements relating to the educational facilities relevant to the course of studies and standard and quality assurance of the course of study

The accreditation process for the LAN

Figure 5 presents the process of accreditation for the LAN.

Figure 5: The process of accreditation


1
College sends application for accreditation to board with all necessary documents
2
All documents checked by the panel of assessors for accreditation
3
Site visit to college:
◆ interview with management, staff and students
◆ check on other matters
4
Panel of assessors reports and makes recommendations to committee for accreditation
Recommends that a full accreditation certificate be given
OR
Recommends the application be rejected with reasons and suggestions
5
Committee discusses and forwards decision to the board
6
Board informs college of decision
Grants the course of study a certificate of accreditation for a fixed period
Continuous assessments
New application to renew the certificate of accreditation
Rejects application with reasons and suggestions
Fresh application for a certificate of accreditation

Quality assurance

To ensure quality, the private institutes of higher learning (IHLs) submit all necessary documents and engage the services of external evaluators and assessors.

Accreditation authorities

The accreditation of certificates, diplomas and degrees is conferred on the Lembaga Akreditasi Negara by the Lembaga Akreditasi Negara Act of 1996 (Act 556)

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Criteria for accreditation

- Only private institutions of higher learning that are operating under the 1996 Private Institute of Higher Learning Act 555 are eligible for accreditation.
- Accreditation is granted based on the evaluation of five sets of data—information on courses offered, teaching staff, curriculum, management system, and physical facilities of the institution, each of which is graded in accordance with standards. The achievement of minimum standards entails a total score of at least 50 per cent while for accreditation, an institution must obtain at least 70 per cent
- The first set of data requires 120 credit hours for first degrees, 80 for diploma and 40 for certificate courses.
- The second set of data gives information on the teaching staff including publications they have produced, their research and consultation job and professional bodies with which they are affiliated.
- The third set of data provides information about the subjects taught in a particular course of study. Prerequisites, evaluation system and reference materials are stated.
- Information about facilities and the management system is also provided. Procedures for teaching are described for distance learning, classroom teaching and practical training.
- The maximum class size is 50 students and if this is exceeded, a supporting tutorial arrangement must be provided.
- A mature student who wishes to enrol at a private institute of higher learning (IHL) must have a minimum of SPM and proficiency in Bahasa Malaysia.
- Payment of fees is a prerequisite to accreditation; RM 11 000 for a certificate, RM 12 000 for a diploma and RM 23 000 for a degree. The fees are used for expenses related to inspection, monitoring and evaluation.

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Sanctions

Institutions which make false claims of accreditation under the LAN are liable to a fine of RM 200 000 or a jail term not exceeding two years or both.

Benefits of accreditation

Accreditation is the seal of quality for a private IHL.

Private IHLs can take in foreign students for courses that have been accredited by the LAN.

Only the students who obtained qualifications from accredited courses would be considered for public service positions and only those pursuing accredited courses would be considered for loans under the National Higher Education Fund.

Credit transfers into local public and private universities will be considered for courses which are accredited. Private IHLs which offer accredited courses can be allowed to franchise or have twinning arrangements with public IHLs and private universities at the higher level in the same course of study. Likewise, only accredited courses can be offered for twinning with a foreign IHL.

Training under the Human Resources Development Fund

The Human Resources Development Act 1992 was passed in Parliament at its May–June session in 1992. The Act provides for the establishment of the Human Resources Development Council (HRDC) to administer the Human Resources Development Fund (HRDF) through the levy collected from the employers. The Act covers employers with fifty or more employees in the manufacturing sector. It is mandatory for these employers to register with the HRDC and pay the HRD levy at the rate of one per centum of the monthly wages of their employees. For employers with only 10 to 49 employees and and a paid-up capital of RM 2.5 million and above, it is optional to register with the HRDC and they pay a monthly levy of one half per cent of the monthly wages of their employees. Further, the government contributes RM 2 for every RM 1 contributed by the small employers. The coverage of the HRDF was later extended to the hotel, tour operators, telecommunications, computer, shipping, aviation, freight forwarders, postal services, courier service and advertising industries.

Employers registered with the HRDC and contributing the HRD levy are eligible to apply for training grants (financial assistance) to defray a major portion of the allowable costs of the training of their employees. Training must be in areas of direct benefit to their business operations.

The major training schemes covered by the HRDF are:

- the Skim Bantuan Latihan (SBL) scheme which is the main funding scheme of the HRDC
- the Program Latihan yang Diluluskan (PROLUS) scheme where training providers submit their training programmes which are relevant to employer's training needs for the award of approved training programmes (ATP) status
- the Pelan Latihan Tahunan (PLT) scheme which encourages employers, especially the smaller ones, to engage consultants to assist them identify training

needs, systematically formulate training programmes and prepare annual training plans

- the Perjanjian Latihan Dengan Penyedia Latihan (PERLA) scheme which provides for a training agreement scheme with training providers accredited with the HRDC. The smaller employers do not pay the full amount of the training fee as the training provider may charge the difference of fees from the HRDC.

The HRDF allows for various training modes: enterprise-based training, institution-based training, industry-managed training centres, co-operative-type training and overseas training. Diploma programmes are allowed to enable employers to fill vacant positions at the higher levels.

The registration process

The Human Resources Development Act provides that every existing employer covered by the Act shall submit the Registration of Employer Form (Form 1) to the HRDC not later than 30 days upon effectivity of the Act.

Quality assurance

For quality assurance in the HRDF, a committee evaluates the syllabi and manuals that the employers submit. Further, providers have to submit evaluation of two runs of courses conducted. The committee may conduct visit and observe courses of training providers.

In the PROLUS scheme, evaluation of the programme is conducted every two years while evaluation of effectiveness of all training schemes is conducted every three years.

Criteria for accreditation

The Act covers employers in the manufacturing sector with fifty or more employees. It is mandatory for these employers to register with the HRDC and pay the HRD levy at the rate of one per centum of the monthly wages of their employees. For employers with only 10 to 49 employees and a paid-up capital of RM 2.5 million and above, it is optional to register with the HRDC and they pay a monthly levy of one half per cent of the monthly wages of their employees. Further, the government contributes RM 2 for every RM 1 contributed by the small employers. The coverage of the HRDF was later extended to the hotel, tour operators, telecommunications, computer, shipping, aviation, freight forwarders, postal services, courier service and advertising industries.

In the PROLUS scheme, the terms and conditions for award of the ATP status are :

- provider must be registered with the HRDC
- provider must have conducted at least two previous runs of the course for non-certifiable courses or at least once for certifiable courses examined by an external body
- for courses leading to certification by an external professional body, the over-all passing rate must be at least 30 per cent for the previous batch of trainees and the overall passing rate for courses for internal examination must be at least 60 per cent for the last two previous batches of trainees
- the post-course assessment of previous trainees is favourable
- the course must be relevant to employer's training needs
- there must be more than one qualified trainer for the course
- there must be a fixed location for conducting the course
- there must be a reasonable percentage of company-sponsored trainees

Sanctions

Any employer who fails to register within the prescribed period shall be liable to a fine not exceeding RM 5000 or to imprisonment for a term not exceeding one year or both.

Benefits of accreditation

Employers registered with the HRDC and contributed the HRD levy are eligible to apply for training grants (financial assistance) to defray a major portion of the allowable costs of the training of their employees. Training must be in areas of direct benefit to their business operations.

Permanent Committee on Evaluation and Recognition of Qualification (PCERQ)

The PCERQ was created to ensure that all qualifications in various fields from institutions of higher learning locally or abroad are recognised by government for the purpose of appointment into public service. Recognition under the PCERQ is guided by the following principles:

- the evaluation and recognition of qualifications is for the purpose of satisfying specific needs in the public service
- priority is given to qualifications awarded by local institutions of higher learning

- qualifications that are associated with recognition and practice need to be co-ordinated between the government and the professional bodies
- qualifications are assessed against the standards of similar academic programmes from the local institutions of higher learning
- the value given to a particular qualification should be associated with the structure of the public service
- assessment is not based on institutions but on academic programmes

The recognition process

Step 1	study done by the Adhoc/Working Committee or the Secretariat
Step 2	table to appropriate subcommittee for evaluation and recommendation
Step 3	table to Permanent Committee for decision
Step 4	send results to appropriate parties

Quality assurance

Quality assurance in PCERQ is built into the process of accreditation. Decisions for accreditation are made by benchmarking with other similar programmes offered at local universities. In addition, professional requirements of bodies such as the Board of Engineers are also used in evaluating programmes. Special subcommittees with representatives from relevant professional bodies are often formed to evaluate certain technical programmes and make visits to the institutions concerned.

Accreditation is usually for a period of five years after which a fresh application must be submitted. Basically, being a committee, the PCERQ does not apply any sanctions. Local programmes that meet the criteria are accredited and those that do not are given the opportunity to make up the deficiencies; failure to do so becomes the ground for final denial.

PCERQ will also recognise private institutions which have already obtained full accreditation from the Lembaga Akreditasi Negara.

The recognition authorities

The PCERQ is established as a Cabinet committee vested with the authority to confer recognition for qualifications. The committee is composed of representatives from various departments, commissions and local universities and chaired by the Minister of Education. The Training Division of the Public Services Department provides secretariat services to the PCERQ.

Criteria for accreditation

Evaluation is based on the following criteria :

- strength of the institution
- entrance requirement
- duration of the programme
- curriculum and syllabus
- qualification of the faculty/staff
- student/lecturer ratio
- teaching and learning facilities
- language/medium used
- examination and grading system
- duration of an academic year
- relationships with other institutions

Approval of programmes of government providers

The approval of programmes of government providers will depend on the courses offered by the particular institutions and to the type of approval sought. Institutions offering the NVTC courses (such as the industrial training institutions and the MARA skills training institutions) will follow the processes set by the NVTC as required by the National Vocational Skill Qualification Framework.

Institutions offering courses other than the NVTC qualifications (such as the polytechnics which award their own certificates and diploma) will follow the requirements of the concerned accrediting body. Accredited institutions also seeking accreditation from the HRDF will also have to subscribe to the processes of the HRDF.

Accreditation for skills testing and certification

The Accreditation System for Skills Testing and Certification was established and became operational in 1993 to replace the old assessment system that was used to award certificates. In implementing the accreditation system, NVTC accredits organisations based on predetermined criteria and these accredited centres will be given the responsibility to assess their own trainees for accreditation by NVTC.

NOSS have been developed for 285 occupations at levels 1 to 5 in 24 work sectors. Table 2 shows the number of accredited centres by level.

Table 2: Accredited centres and programmes 1993–97 (December)

Year	Accredited programmes				Accredited centres
	Level 1	*Level 2*	*Level 3*	*Total*	
1993 (Pilot phase 1 – Jun '93)	20	–	–	20	9
1993 (Pilot phase 2 – Dec '93)	98	31	–	129	46
1994	151	50	4	201	59
1995	256	130	13	390	81
1996	457	236	21	706	154
1997 (Dec '97)	722	432	58	1212	252

The accreditation process

Any organisation seeking accreditation from the NVTC is advised to conform to the following procedure:

- Identify and ascertain the skill area for which the organisation intends to seek accreditation. For this purpose, the organisation should refer to the registry of National Occupational Skill Standards (NOSS) issued by the NVTC.
- Obtain the relevant NOSS from the NVTC.
- Study the requirements of the NOSS, and evaluate the organisation's ability, either on its own or in collaboration with other organisations, to undertake training and assessment to meet the NOSS requirements.
- Assess the organisation's ability to conform to the accreditation criteria as stipulated by the NVTC.
- Submit to the NVTC application for each and every training programme that the organisation seeks accreditation. For this purpose, the official application form MLVK/T/1001, also available from the NVTC, is to be used.
- Proceed with training and assessment, leading to the award of Malaysian skill certificates upon obtaining accreditation from the NVTC.

Quality control

In order to maintain the credibility and continued acceptance of the Malaysian skill certificates, the accreditation system adopts a stringent procedure of quality control and assurance in which three groups or levels of key personnel are involved, namely the 'assessors', 'internal verifiers' and 'external verifiers'.

The assessors and internal verifiers are appointed by the accredited centres from amongst trainers and training officers who have been accredited by the NVTC through induction courses for assessors and internal verifiers. They perform in-house assessment and internal verification based on documentation and procedures that have been stipulated by the NVTC.

The external verifiers, on the other hand, are officials accredited and appointed by the NVTC to ensure that assessment and internal verification carried out at accredited centres conform fully to specified requirements. The external verifiers generally make four verification visits to each accredited centre every year, during which he/she checks portfolios of candidates, and endorses all applications for the award of Malaysian skill certificates. He/she also assesses whether the centre has met all the accreditation requirements in terms of training, assessment and quality control, as well as recommends to the NVTC whether the accreditation at the particular centre is to be continued or withheld.

Accreditation authorities

The NVTC accredits centres to offer, administer and maintain the quality of the Malaysian skill certificates for specific jobs covered by the relevant National Occupational Skill Standards.

Criteria for accreditation

Any organisation—be it a training centre or even workplaces—that satisfies the following set of criteria may apply to the NVTC to be recognised as an accredited centre:

- The organisation has been legally established in Malaysia.
- It can provide—by itself or in collaboration with other organisations—the requisite physical facilities and resources such as workshops, classrooms, tools and equipment, for undertaking training and assessment to meet the requirements of relevant National Occupational Skill Standards.
- It has competent and properly qualified trainers and training officers to undertake training and assessment.
- It is able to meet quality assurance policies and procedures stipulated by the NVTC, including having assessors and internal verifiers who have been accredited by the NVTC through special induction courses.

- It can provide the requisite support and guidance to candidates in order to facilitate their learning and acquisition of the Malaysia skill certificates.

Accreditation is given to an accredited centre for a period of three to five years, after which the centre may apply for re-accreditation. The accredited centre is required to submit the application for reaccredidation six months before the expiry of its accreditation. Re-accreditation is usually given for a further three to five years.

Sanctions

The sanctions include suspension and withdrawal or termination of accreditation. Normally, an errant accredited centre with repeated adverse reports from external verifiers will be issued a letter requiring the centre to show cause why its accreditation should not be suspended, withdrawn or terminated. Most accredited centres are given sufficient time and opportunity to address whatever shortcomings are reported. Decisions to suspend or terminate are decided by the Standards and Certification Committee and there are no provisions for these centres to appeal against any such decision.

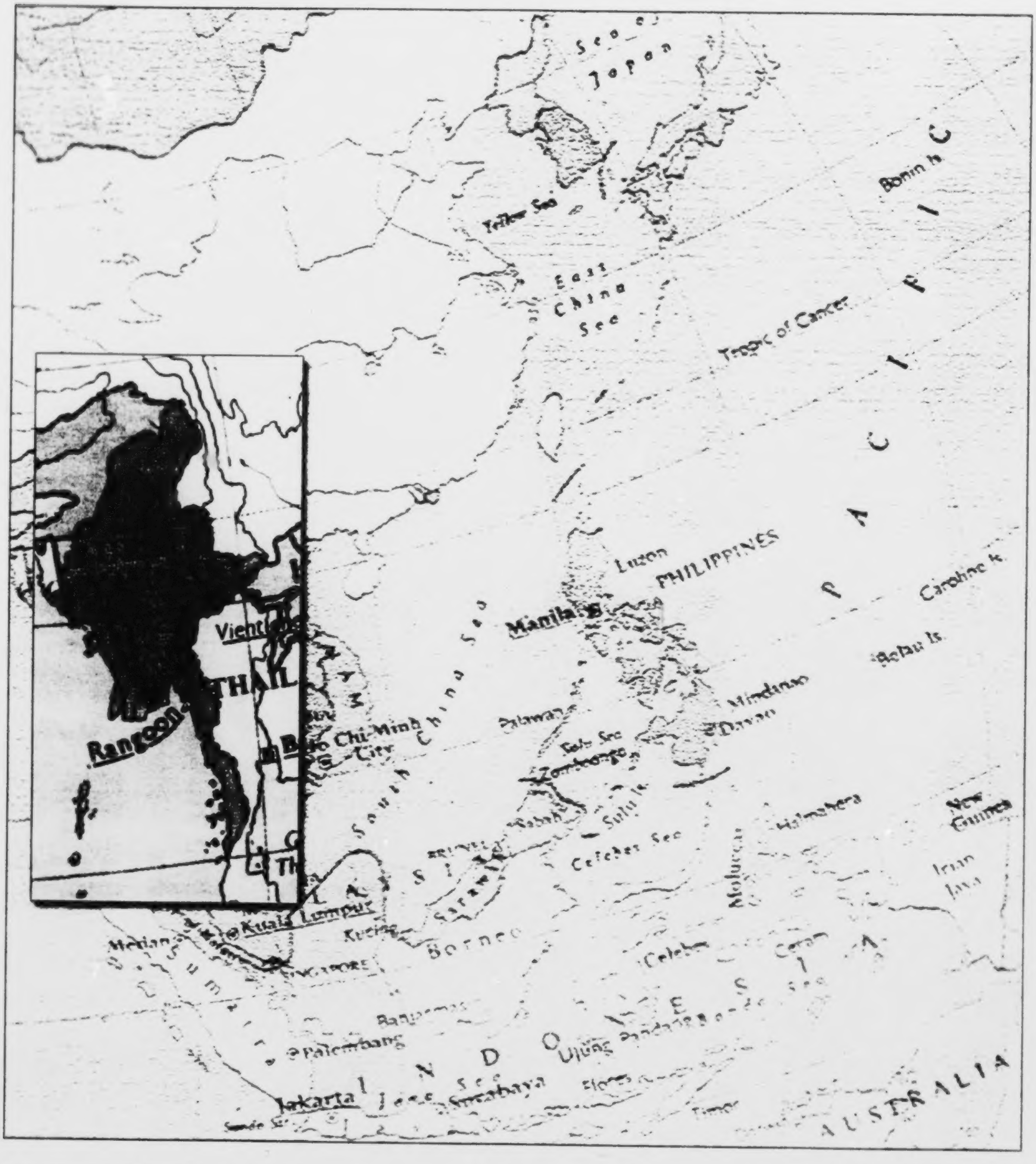
Benefits of accreditation

The new accreditation approach in national skill certification in Malaysia is perceived to be beneficial to the country in at least the following ways:

- The National Skill Certification System provides for an alternative, and an equally attractive career development path—one that promotes lifelong learning and upward mobility for the skilled workforce in the country, and one that is more commensurate with their important place in society today.
- By placing emphasis on the achievement of outcomes (competencies) based on actual job requirements, the National Skill Certification System is better poised to produce more competent and better qualified skilled workers for the Malaysian economy.
- National skill certification becomes more accessible to trainees and skilled workers alike through a wider network of assessment centres. This is because all training establishments, regardless of whether public or private, and even workplaces, can be accepted as accredited centres, thus enhancing the availability of national skill certification.
- By recognising the worth of previously acquired competencies, including prior working experiences and learning activities, skilled workers in the country stand a better chance of obtaining the Malaysian skill certificates.
- Assessment takes place much more flexibly—throughout the duration of training courses as opposed to the past practices of being held at the end of training only. It can also take place at the premises of actual workplaces. In

addition, assessment takes place only as and when candidates are ready for it, and not rigidly scheduled as before.

- Learning can be evaluated on a modular basis, in which each self-contained competency can be separately and individually assessed and certified. In this manner, credit accumulation and transfer becomes feasible in vocational fields as well.



Sea of Japan
Yellow Sea
East China Sea
Bonin Is.
Tropic of Cancer
PACIFIC
PHILIPPINES
Luzon
Manila
South China Sea
Palawan
Sulu Sea
Zamboanga
Mindanao
Davao
Caroline Is.
Belau Is.
Vientiane
THAIL
Rangoon
Ho Chi Minh City
Sabah
Sulu Is.
BRUNEI
Celebes Sea
Halmahera
New Guinea
Irian Jaya
MALAYSIA
Sarawak
Kuala Lumpur
Kuching
Medan
Sumatra
SINGAPORE
Borneo
Celebes
Moluccas
Ceram
INDONESIA
Banjarmasin
Palembang
Ujung Pandang
Banda Sea
Jakarta
Java Sea
Surabaya
Flores
Timor
AUSTRALIA
Sunda Str.

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Union of Myanmar

Background[1]

Geography and demography

The Union of Myanmar (referred to here as Myanmar, formerly known as Burma) is the largest country in area on the mainland of South-east Asia. It is also the most westerly of the SEAMEO member countries, bordered by Bangladesh and India to the west, China to the north and Lao PDR and Thailand to the east. Geographically, Myanmar is part of the greater Mekong sub-region, which also includes Lao PDR, Thailand, Cambodia, Vietnam and the Yunnan province of the People's Republic of China.

Myanmar was under British rule for over 100 years, with a break during World War II when it was occupied by Japan. It became independent of Britain in

1948, but has continued as a member of the British Commonwealth. In recent years Myanmar has sought to strengthen its links with other countries in the region through membership of organisations such as SEAMEO and the Association of South-east Asian Nations (ASEAN)[2]. A likely consequence of this is increased official movement of workers, since membership of ASEAN requires improved access and movement among the member countries.

In the late 1990s the population of Myanmar is approaching 50 million, with growth of about 1.9 per cent per annum. Approximately half of the population is under 18 years of age. The population includes eight major ethnic groups, each with its own language and dialects. The largest ethnic group is the Bamar, from which the old name 'Burma' was derived. In the early 1990s the literacy rate was around 80 per cent, and is expected to increase with increased participation rates in school education.

Economy

Agriculture is the predominant economic activity, with 65 per cent of the population living in rural areas. Myanmar is largely self-sufficient in food production. It is also rich in a number of valuable resources, including forests, minerals and precious stones, and the country has some oil and natural gas reserves, which it exploits. Other industries include sugar, textiles, fertiliser and cement production. Many manufactured consumer and capital goods are imported.

During the 1980s Myanmar was run as a command economy. However, as a result of a policy change at the end of that decade measures have been taken to shift to a market economy with liberalisation of trade and the creation of opportunities for foreign investment. In order to avoid exploitation, the government of Myanmar has approached reform with caution and requires trade and investment to be on the basis of mutual benefit. Although these policy changes have had some impact on the economy, structural change has been slow to occur and most employment growth during the 1990s was in agriculture (ILO 1997, p. xiii).

The government of Myanmar reports that:

> *… with the practice of market-oriented economy, investments from both local and foreign companies have grown considerably. 22 countries have made investments in 11 economic sectors with a total of almost 300 projects. Private sector has now risen to 76 per cent for*

the State owned sector and two per cent for the cooperatives sector. These figures clearly indicate that private sector has been given special priority.

GNP growth was formerly planned for an average of 5.1 per cent annually, but in reality, it has reached 7.5 per cent, while GDP growth is now 5.5 per cent annually.

(from www.myanmar.com Jan 1999)

Overview of the education and training systems[3]

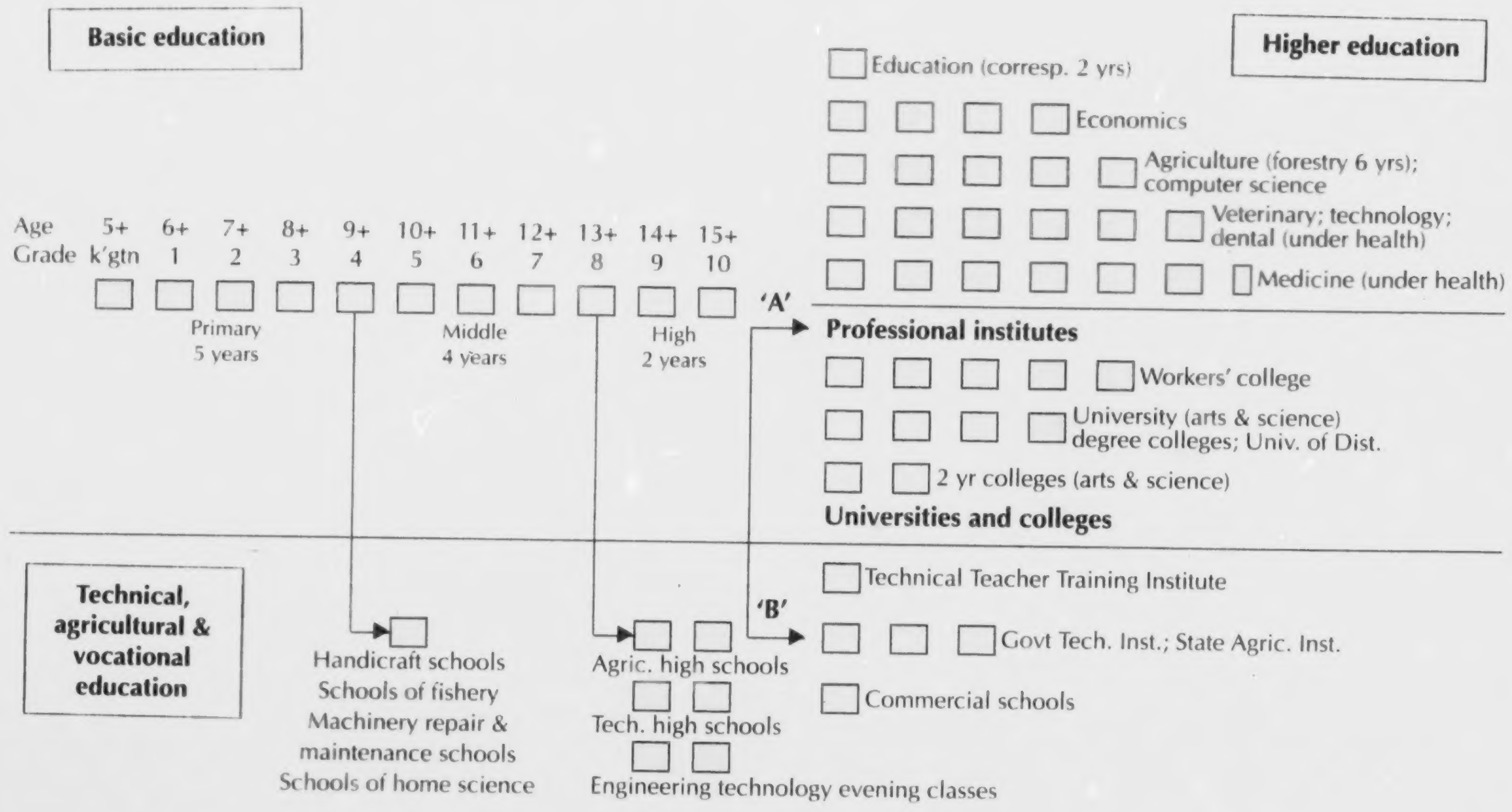
Primary and secondary education

The people of Myanmar have traditionally given high priority to education, with basic literacy fostered in part by the Buddhist monastic tradition. Many elements of the education and training system in Myanmar are derived from or influenced by British models. However, the system has been progressively developed and diversified to meet local requirements and to promote specific policy objectives, such as universal primary school education by the year 2000, and the need for a responsive VTET system.

Since independence in 1948, governments in Myanmar have placed much emphasis on education and training and have progressively increased expenditure in this area. Government initiatives have been supplemented by activity in the private education and training sector, and supported by monastries (particularly in rural areas), volunteer workers and community groups. Human resource development in Myanmar is regarded as being ahead of its economic development (UNESCO, Myanmar, p. 7). Even so, in 1990 close to 90 per cent of the population is believed to have had no formal education or only primary school education. Clearly there is a need for further development of the education and training systems to meet the needs of a changing economy and to avoid skills shortages as the economy expands (ILO 1997, p. 57).

Education in Myanmar consists of five years of primary school, four years of middle school, and two years of high school. At the end of high school students may proceed to the 'A' stream and then to higher education (cf. the UK system of 'A' levels), or to the 'B' stream which leads to technical, agricultural and technical-teacher training. In addition, opportunities to enter technical, agricultural and vocational education are provided at the end of primary and middle schooling.

Figure 1: Union of Myanmar educational system, 1992


Basic education
Higher education
Education (corresp. 2 yrs)
Economics
Agriculture (forestry 6 yrs); computer science
Veterinary; technology; dental (under health)
Medicine (under health)
Age 5+ 6+ 7+ 8+ 9+ 10+ 11+ 12+ 13+ 14+ 15+
Grade k'gtn 1 2 3 4 5 6 7 8 9 10
Primary 5 years
Middle 4 years
High 2 years
'A'
Professional institutes
Workers' college
University (arts & science) degree colleges; Univ. of Dist.
2 yr colleges (arts & science)
Universities and colleges
Technical, agricultural & vocational education
Technical Teacher Training Institute
'B'
Govt Tech. Inst.; State Agric. Inst.
Commercial schools
Handicraft schools
Schools of fishery
Machinery repair & maintenance schools
Schools of home science
Agric. high schools
Tech. high schools
Engineering technology evening classes

Source: UNESCO (Myanmar), p. 5

The vocational and technical education and training system

The vocational and technical education and training (VTET) system in Myanmar holds opportunities for diversification at three points, namely at the end of the primary level, the end of middle level, and on completion of the high school level. Since 1974 pre-technical and vocational education has been offered to students from grades 5 to 8 in 50 selected basic education high schools. In 1977 there were 70 basic middle schools selected and vocational courses were offered to the students at that grade level. This practice improves the employability of the young students and fosters the right attitude towards production and hands-on income generating skills.

The TVET school-based training is under the Department of Technical, Agricultural and Vocational Education (DTVAE) and is responsible for training of the middle-rung technicians, skilled and semi-skilled workers.

Skills maps and skills standards

Skills maps and skills standards are not formally part of the Myanmar VTET system, although they may exist on an ad hoc basis in some training programmes or industries.

During the 1990s, many curricula were redeveloped so that programmes of training were modularised and instruction and assessment could be undertaken on a competency basis. Curricula are also updated as the need arises to reflect changing technology.

The ILO East Asia Multidisciplinary Advisory Team has identified Myanmar as one of a number of countries in the greater Mekong sub-region which do not have a national skill standards, testing and certification system:

> *Currently, there is no skill standards or certification system in the country. However, state-owned enterprises can set their own skill standards, usually at three levels: basic (entry), intermediate (partly skilled) and qualified (fully skilled). A similar skill standards system is likely to be followed by the private sector, although at this stage no example of skills training could be identified, as the formal private sector has only recently emerged. It is likely that, as the private sector grows, it will seek to have a SSTC [skill standards, testing and certification] system established to facilitate recruitment and placement of workers within skill categories and salary scales.* (ILO 1997, p.80)

Myanmar has a system for national certification but not based on the skills or occupational standards. However, there are strong signs that such a system is needed in both the public and private sectors and to facilitate overseas employment and the recruitment of skilled and semi-skilled workers from abroad.

Major VTET organisations, and their roles

In the early 1990s the overall responsibility for education and training in Myanmar lay with the Ministry of Education. Within the Ministry there were seven departments, reflecting the major elements of the education and training system. More recently, however, responsibility for VTET has been transferred to the Ministry for Science and Technology. Department responsibilities are as follows:

- Department of Basic Education is responsible for general education in schools at all levels and in teacher training centres.
- Department of Higher Education is responsible for universities and colleges.
- Department of Technical, Agricultural and Vocational Education (DTAVE), until recently, was responsible for technical training at technical schools and institutes, agricultural training at agricultural schools and institutes, the technical teachers training institute, and vocational schools providing specific employment skills.
- DTAVE has since been renamed the Department of Technical and Vocational Education and transferred to the Ministry for Science and Technology, and now operates within a framework established by the Technical and Vocational Education Council.
- Myanmar Examination Board is responsible for all government examinations.
- Myanmar Education Research Bureau undertakes research relating to teaching.
- Department of Myanmar Language Commission has arisen from the diverse range of languages and dialects spoken in Myanmar.
- the Central Research Organisation undertakes general and policy research.

The major government organisation involved in VTET is the Department of Technical and Vocational Education. The department's responsibilities include the following VTET institutions:

	Educational level
Handicraft schools	Post-primary
Schools of fishery	
Machinery repair and maintenance schools	
Evening trade classes	
Schools of home science	
Agricultural and technical high schools (17)	
Engineering technology evening classes	Post-middle school
Government agricultural and technical institutions (12)	Post-high school, 'B' stream
The Technical Teacher Training Institute	
Commercial schools	

The VTET certification system

The basic model

Because of its roots in the British system, VTET certification in Myanmar is founded on an examination-based approach, although the curriculum in many areas has been redeveloped to reflect a more competency-based approach to assessment and certification.

Certification authorities

The training provider generally issues a certificate, which indicates successful completion of a VTET programme. The authority to issue certificates is generally derived from the Ministry of Science and Technology, which is responsible for a large number of training providers, or the Ministry of Labour, which is responsible for the vocational training centres.

Types and levels of qualifications

The technical high school students are selected according to their grades obtained in the middle school final examination. There are no entrance examinations for the students who wish to enter agricultural schools. The examinations given to students are under the DTAVE which conducts informal and half-yearly examinations on their own but the final and promotion are held under the control of examination committees of DTAVE.

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Standards for certification

Many VTET programmes are assessed using examinations, which are set and marked by the Myanmar Examination Board. Consequently, the Examination Board, following the guidelines and other specifications as set down in the curriculum determines the standards for VTET programmes, which are externally examined.

For programmes, which are not externally examined, certification standards are as specified in the curriculum and applied by the teacher or trainer. In some cases specific industries or government ministries are involved in setting the assessment standards for programmes in which they have an interest, for example, the Ministry of Construction for VTET programmes in the building and construction area.

Accreditation of VTET programmes

Types of accreditation

The majority of VTET programmes is developed and approved by the Technical and Vocational Education Council, which has members from all relevant ministries. The Council acts on advice from its three sub-committees, namely the Educational Committee, the Curriculum Committee and the Examination Committee. These committees undertake the design, development, implementation and monitoring of the technical, agricultural and vocational programmes for which the council is responsible.

The accreditation process

There is currently no accreditation system for TVET institutions and no official recognition for the need of such a system. This may be due to the fact that Ministry of labour (MOL) controls all formal TVET institutions are controlled by the Ministry of Science and technology and only one VTC. Furthermore, the financial and human resources needed for the development and implementation of the accreditation system is inadequate. The country's political crisis clouded the financial assistance that could possibly be funnelled through the education sector.

Process for establishing a new VTET programme

In establishing a new VTET programme in The Union of Myanmar, the programme should be presented and approved by the Department of Technical, Vocational and Agricultural Education (DTAVE) with the involvement of the Ministry of Science and Technology. DTAVE is responsible for the training of technicians, and skilled and semi-skilled tradesmen. DTAVE also operates more than 70 vocational training schools to admits students who dropped-out from any level of education. Proper institutions and TVET teachers as well as working professionals would then be appointed in their involvement in the conduct of the programme.

There is a strong consideration on the material development that has to be given priority apart from the technological and methodological developments. This is to address the inadequacy of the print and non-print materials used in the new VTET programme.

The Union of Myanmar accepts the concept of continuing education in the TVET system. Myanmar recognises the academic, professional and attitudinal qualities of TVET teachers that are primarily required for proper technical-vocational education. In this direction, updating and upgrading of programmes for the teachers to instil to their pupils and its enthusiasm for learning is deemed necessary.

For some time, Myanmar remained unaffected if not slow even with worldwide changes in the occupational patterns, rapid changes in science and technology and the need for the transformation of job qualifications. Recently, the government launched the market-oriented economic system that addresses the necessity to adapt to the incoming situation systematically and strategically through continuing education.

The objectives of VTET programmes should focus on:

- development of teaching quality and effectiveness of teachers
- development of competency-based curricula
- introduce entrepreneurial training to promote self-employment
- provide specialised and short-term course in agriculture
- provide opportunities for re-training of workers
- establish more training institutions
- promote high technology training, research and development.[4]

Information about the operation of these new arrangements and their impact on VTET activity in Myanmar is not as yet available.

Accreditation of VTET providers

The accreditation process

According to the ILO East Asia Multidisciplinary Advisory Team, in Myanmar:

> *... There is currently no accreditation system for TVET [i.e. VTET] institutions and no official recognition of the need for such a system. This may be due to the fact that all formal TVET institutions are controlled by the Ministry of Science and Technology and only one VTC [Vocational Training Centre] is controlled by the MOL [Ministry of Labour]. Furthermore, the financial and human resources needed for the development of the accreditation system are inadequate.* (ILO 1997, p.96)

Whereas in other SEAMEO member countries, Lao PDR for example, the development of accreditation systems for VTET providers has been accomplished with international expert and financial assistance, the present political situation generally precludes the provision of financial and technical assistance to Myanmar.

Quality assurance

Quality assurance only exists through the control which the Ministry of Science and Technology and the Ministry of Labour have over VTET providers.

Accreditation authorities

Activity by private training providers is noted in some sources. However, the source of the authority and the procedures to be followed to operate as a training provider is apparently not documented publicly outside Myanmar.

New initiatives and developments

The need for a system of accreditation and quality assurance for both public and private providers of VTET has been noted by outside observers. Furthermore, it can be expected that Myanmar's membership of ASEAN and increased participation in the regional labour and training markets will generate pressures to develop and implement such systems. Ultimately, however, the decision to proceed in this area must come from within and there are currently no public indications that this will occur.

However, one initiative has been taken. As part of the project to further cooperation in employment promotion and training in the greater Mekong subregion, Myanmar has nominated two VTET providers as candidates for centres of excellence. The providers nominated for evaluation are the Ministry of Labour Vocational Training Centre in Yangon, and the Ministry of Science and Technology Government Technical Institute at Thanlyin (ILO 1997, pp. 119–120).

Apprenticeship schemes

In many countries the system known as apprenticeship is an important means of training people in specific vocations, usually trades. This system has been used historically in Myanmar but is now little used.

Under an apprenticeship system the person to be trained enters into an indenture (a legal contract) with an employer. Under the terms of the indenture the employer undertakes to provide the apprentice with training on-the-job, which is often supplemented by formal, off-the-job training with a VTET provider such as a technical college. On successful completion of the apprenticeship the apprentice is usually issued with a recognised qualification which allows him or her to work as a fully qualified tradesperson or craftperson.

Traditionally, apprenticeships lasted for several years. However, in some countries (Australia, for example), the principle of mixed on-the-job/off-the-job training regulated by a legal contract between an employer and the apprentice, has been extended to shorter training programmes at lower skill levels. These newer arrangements are sometimes known as traineeships.

The continuation of traditional methods for training craftpersons, and the historical influence of former colonial powers, led to the establishment of apprentice training arrangements in some SEAMEO member countries.

In the 1950s, when the foundations for Myanmar's VTET system were laid, craftpersons received their training at artisan training centres. Even so, the shortages of craftpersons and other skilled workers continued and prompted the development of the VTET system to that outlined earlier. These arrangements have largely replaced the earlier system for training craftpersons in Myanmar.

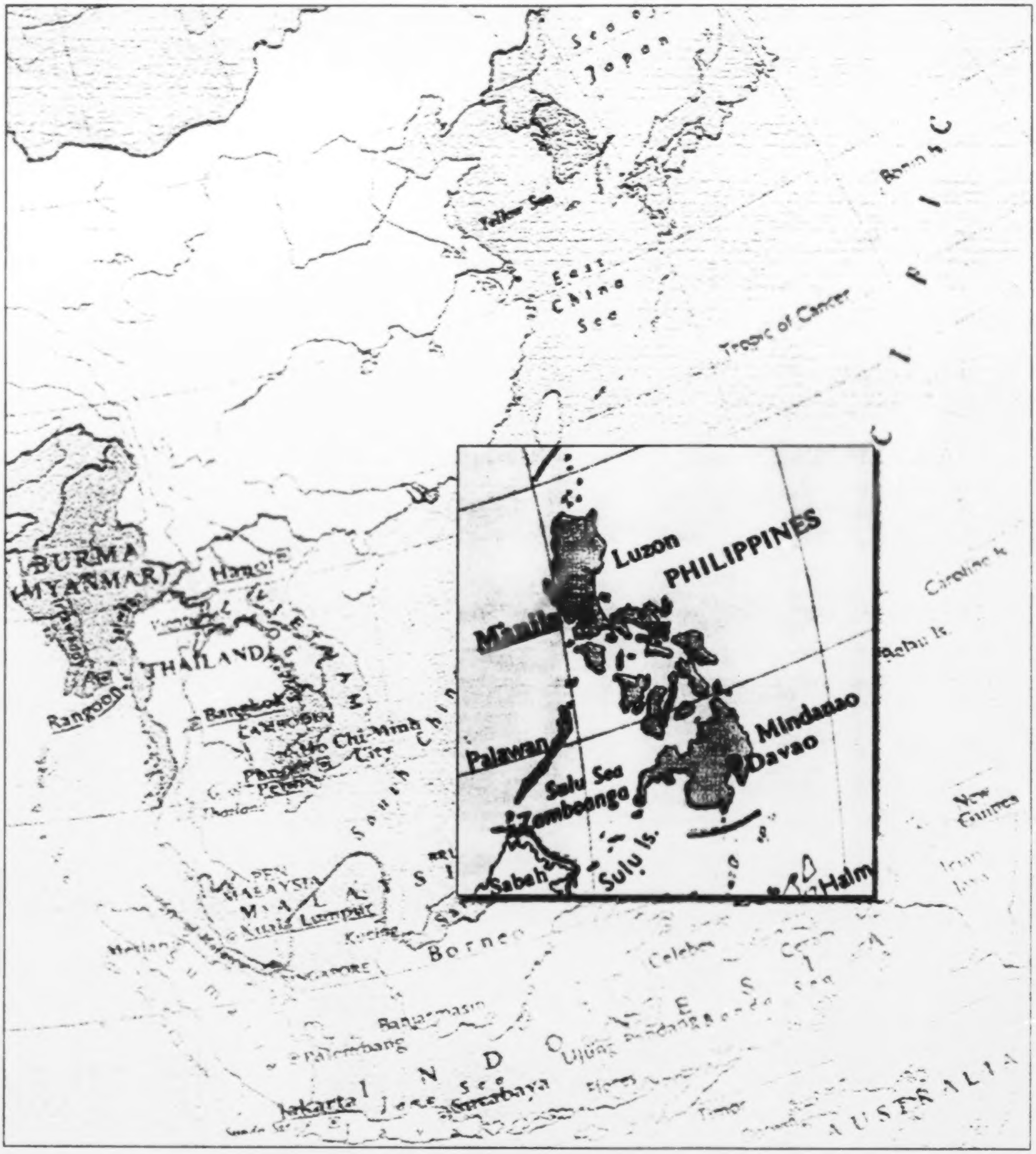
Notes

1 As Myanmar was not represented at the initial meeting of the experts' group, the material in this chapter has been compiled from published sources. The background section is derived largely from UNESCO (Myanmar) 1995, pp. 1–3.

2 Myanmar applied to join ASEAN in August 1996, and a special meeting of ASEAN Foreign Ministers in July 1997 agreed that the admission of Myanmar, together with Lao PDR, should proceed as scheduled. Lao PDR and Myanmar were admitted into ASEAN on 23 July 1997.

3 As for note 1.

4 Myanmar Country Report: Professional Development for VTET Teachers at Manila, Philippines by Htay Aung and Daw Hla Hla Myint, GTI Insein Yangon, Union of Myanmar.


Sea of Japan
Yellow Sea
East China Sea
Tropic of Cancer
Bonin Is.
PACIFIC
BURMA (MYANMAR)
Hanoi
VIETNAM
THAILAND
Rangoon
Bangkok
CAMBODIA
Ho Chi Minh City
Phnom Penh
Gulf of Thailand
South China Sea
MALAYSIA
Kuala Lumpur
Kuching
SINGAPORE
Borneo
Celebes
Banjarmasin
Palembang
Ujung Pandang
Banda Sea
INDONESIA
Jakarta
Java Sea
Surabaya
Flores
Timor
AUSTRALIA
Caroline Is.
Palau Is.
New Guinea
Luzon
PHILIPPINES
Manila
Palawan
Sulu Sea
Zamboanga
Mindanao
Davao
Sabah
Sulu Is.
Halm

Training systems in South-east Asia

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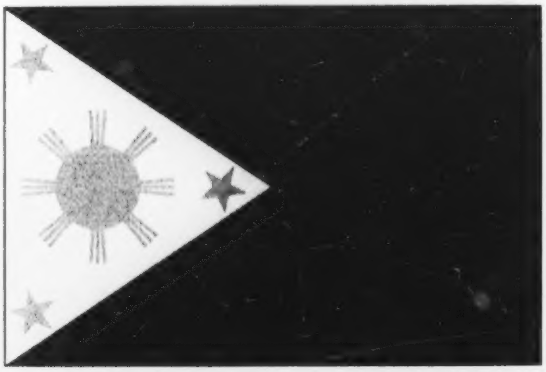
Republic of the Philippines



Introduction

The Republic of the Philippines is an archipelago consisting of more than 7100 islands located on the eastern perimeter of the South China Sea. Originally colonised by Spain, the Philippines became independent in 1898, but was under direct rule by the United States of America, and later, strong US influence for some time. The influence of the United States has declined in recent decades.

In the Philippine economy, agriculture continues to be of major importance, accounting for about 40 per cent of employment and 20 per cent of output. Forestry and fishing, and to a lesser extent mining, are also important primary industries. Manufacturing is increasing steadily in significance.

Private-sector institutions have been prominent in the Philippine education and training systems. The national literacy rate is over 76 per cent, higher in urban areas, with some regional variation (NOOSR 1995, p.3).

Population

Population is a major factor in Philippine government planning and policy-making. In 1995 the total population of the Philippines was 68.6 million, an increase of 7.9 million on the 1990 census figure. The 1995 census figure is nine times the Philippine population in 1903 when the first of the censuses that counted the population in the entire archipelago was undertaken.

The population grew at the rate of 2.3 per cent annually in the first half of the 1990s, slightly lower than the growth rate during the 1980s. The 1970 census indicated an average annual growth rate of 3.1 per cent in the previous 10 years, and this was followed by decelerating rates: 2.8 per cent from 1970 to 1975, 2.7 per cent from 1975 to 1980 and 2.4 per cent from 1980 to 1990. Even so, if the average annual growth rate of the population continues at 2.3 per cent, the Philippine population is expected to double in less than 30 years.

As with other countries in the region, and in contrast to most economically advanced western countries, there is a high proportion of children and young people in the Philippine population.

Population distribution

Two out of five persons are residents of either the National Capital Region (NCR), Central Luzon (Region III) or Southern Tagalog (Region IV). Based on the 1995 census, the population of these three regions combined comprised more than 38 per cent of the country's total population. Among the regions, Southern Tagalog (Region IV) is the fastest growing region, in terms of population, with a census growth rate of over 3.5 per cent per annum.

Five of the sixteen administrative regions (the 16th region is the newly created CARAGA) had census growth rates higher than the national figure. Two of these are in Luzon (NCR and Region IV) and the other three in Mindanao (Region IX, Region XI and Region XII). Region X grew at the same rate as the national population.

Cebu, the fastest growing centre of industry and trade outside NCR, registered the highest population among the provinces with over 2.9 million persons.

Two other provinces surpassed the two million mark: Negros Occidental (over 2.4 million) and Pangasinan (almost 2.2 million). The provinces with less than 100 000 residents are Batanes (14 180 persons), Camiguin (68 039 persons), Siquijor (73 756 persons) and Apayao (83 660 persons).

Working-age population and the labour force

The Philippine working-age population—15 years and over—grew slightly in 1997 (by 0.25 per cent) and posted a 3 per cent annual growth rate from 1988 to 1994. One-third of the working age population are youth aged 15–24 years, and one-fifth belong to the 25–34 years age group.

Based on the highest grade completed, elementary and high school graduates equally comprised 42 per cent of the total labour supply, and the groups grades I–V and 1st–3rd year high school equally shared 32 per cent of the total workforce.

In 1997, the country's labour force comprised almost two-thirds of the working-age population. It has increased slightly by 3 per cent over a ten-year period. Across regions, Region IV and NCR posted the highest share of the national labour force, at 15 per cent and 14 per cent respectively.

Employed labour force has stood at the rate of 91 per cent for the last nine years. In 1997, employed persons stood at 27.3 million or three-fifths of the working-age population. Male–female ratio stood at 63–37 per cent. Forty-one per cent of females belong to age brackets 25–34 and 35–44 years.

One-third of the employed persons worked in metropolitan Manila and in the neighbouring regions III and IV. Employed persons in the Cordillera Autonomous Region (CAR) accounted for only 2 per cent of total employed.

In 1997, only 20 per cent of the employed persons are high school graduates and a low 11 per cent are college graduates. Some 22 per cent of the employed have either reached elementary level or completed elementary education. The pattern is shown even in the last ten years.

Employed persons in agriculture, animal husbandry, forestry, fishing or hunting accounted for 41 per cent of the total employment figure. This occupational group dominated the workforce for the past ten years. The share is higher in males at 73 per cent than in females at 27 per cent. Female sales workers stood at 30 per cent.

Consistently, the agriculture and services sectors accounted for the bulk share of the employment figure. These include agriculture, fishing and forestry (44%), community services (18%), wholesale and retail (15%). The manufacturing sector accounted for only 9.8 per cent of the total employment figure.

The majority of the employed are wage/salary and own-account (i.e. self-employed) workers. In 1997, they accounted for 57 per cent and 38 per cent of the employed workers respectively. Eighty per cent of the employed in 1995 had a permanent job or a business and a majority worked in the urban areas. The rest had seasonal jobs and mostly worked in the rural areas.

Of the persons employed in 1997, sales and service workers recorded the highest mean of hours worked at 51.0 and 52.0 hours respectively. The lowest mean of hours worked was recorded by agricultural workers.

Unemployment

The national unemployment rate has settled at 8.7 per cent for the last two years. The number of unemployed persons improved slightly by an increment of 20 000 persons employed over the ten-year period. The majority of those who looked for work have approached employers, relatives and friends directly.

High school graduates posted the highest number of unemployed for the two years 1996–97, and based on age groups, unemployed persons are mostly young at ages 15–24. Based on sex type, males stood at 59 per cent of the unemployed.

Labour and employment indicators

Some recent surveys showed the following:

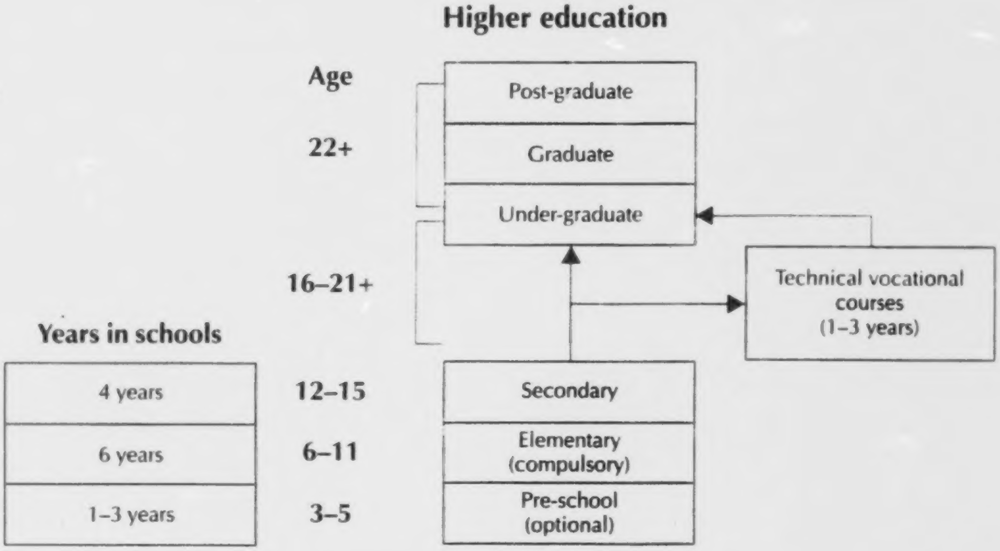
- While labour productivity on the average across sectors increased in nominal terms, labour productivity decreased in real terms in 1988–93. This trend may show that most production activities engaged in do not produce as much as higher value added outputs.
- Labour turnover rates in the three years, 1993–1995, posed stability in the employment market. However, this measure may show that opportunities for labour development seemed to be slow.
- Surveys have shown average monthly wage rates improved for all occupations.

Overview of the education and training system

Elementary and secondary schooling

Filipino students attend compulsory basic education of six years elementary and four years secondary. They then progress to the tertiary level, either to post-secondary technical vocational education or to a bachelor's degree (see figure 1).

Figure 1: The structure of the Philippine education system


Higher education
Age
Post-graduate
22+
Graduate
Under-graduate
16–21+
Technical vocational courses (1–3 years)
Years in schools
4 years
12–15
Secondary
6 years
6–11
Elementary (compulsory)
1–3 years
3–5
Pre-school (optional)

In an effort to rationalise the management of the provision of education and training in the country, the Educational Commission (EDCOM) was organised by Congress to study the state of education in the Philippines. Among its recommendations that were adopted is the restructuring of the behemoth educational organisation into three bodies that will each focus on basic education (elementary and secondary), technical vocational education and training and higher education (degree and post-graduate programmes). Two legislations were enacted in 1994 that led to the creation of the Commission on Higher Education (CHED) and the Technical Education and Skills Development Authority (TESDA). The legislation RA 7722 gives CHED the mandate to manage programmes and institutions of higher education. On the other hand, RA 7796 gives TESDA the mandate to manage and co-ordinate the provision of technical vocational education and skills training.

Education moulds the knowledge, competency and values of the country's population. It is on this premise that investments in education have a bearing on the quality of the workforce. Hence, education investments based on well-planned and fully integrated education systems can produce the competitive and productive human resource needed for the country's economic growth.

In the 1995–96 school year (i.e. June 1995 to March 1996), enrolments reached 11.5 million at the elementary level, 4.9 million at the secondary level, and 2.2 million at the tertiary level. While the bulk of elementary students (92%) are enrolled in public schools, 77 per cent of college and post-graduate students are enrolled in private schools. It can be noted that elementary education was provided largely by public schools, while tertiary education was dominated by period private schools. This pattern of enrolment between public and private schools at both levels can be observed over the ten-year period.

Enrolment in secondary education reached 4.9 million of which 69 per cent and 31 per cent are enrolled in public and private schools, respectively. Enrolment in post-secondary technical vocational courses totalled 467 896. Of the total, 77 per cent are enrolled in private schools while 23 per cent are in public schools.

Based on the DECS report on the graduates of school year 1992–93, 1.3 million and 0.8 million students graduated from elementary and secondary education, respectively. The number of graduates in public and private schools is reflective of the distribution of enrolment between these two types of schools. It can be also noted that at the basic level, the participation rate was high at 93 per cent on the average over the ten-year period, 1985–1986 to 1995–1996. The school participation rate of children aged 7–12 was twice that of children aged 13–16. For the school year 1995–1996, the cohort survival rate for elementary education was 67.5 per cent and 47.5 per cent for secondary. In the school year 1996–1997, the cohort survival rate was 72 per cent for elementary and 48.3 per cent for secondary.

In reports prepared for school year 1994–1995:

- CHED reported that 312 667 tertiary students completed associate, bachelor's and post-graduate degrees.

- Of this total, 73 per cent completed four- or five-year degree courses, which are the most popular, such as business, health and engineering, education and arts and sciences.
- DECS reported 274 769 graduates of the post-secondary non-degree courses.
- The number of graduates increased by 163 per cent during the six-year period, 1988–1989 to 1994–1995.

Overview of the VTET[1] system

The quality-assured Philippine TESD System

In June 1998, the Philippine Technical Education and Skills Development (TESD) System was initiated, creating a single national framework for the whole country. The system integrates the various TESD sub-systems centred on the TESDA Occupation Qualification and Certification System and was designed to be implemented along the key principles of competency-based technical education and skills development (CBTESD). The framework provides for quality assurance within the whole system and within each of the various sub-systems.

Technical education

Secondary school graduates may progress to technical vocational courses of one to three years duration. Graduates from these courses may enter the workforce directly or progress to undergraduate courses in higher education (figure 1).

Skills training

In 1994, the then National Manpower and Youth Council (NMYC) reported a training output of 626 394 persons. The output covers all training activities of NMYC member agencies and their training network nationwide. NMYC topped among its member agencies with an average output of 160 534 in skills training within the six-year period.

In 1995, TESDA reported a training output of 184 823 through its training centres, community and industry training partners. The figure is 15 per cent below its output level in 1991, reflecting TESDA's new role in the light of its mandate.

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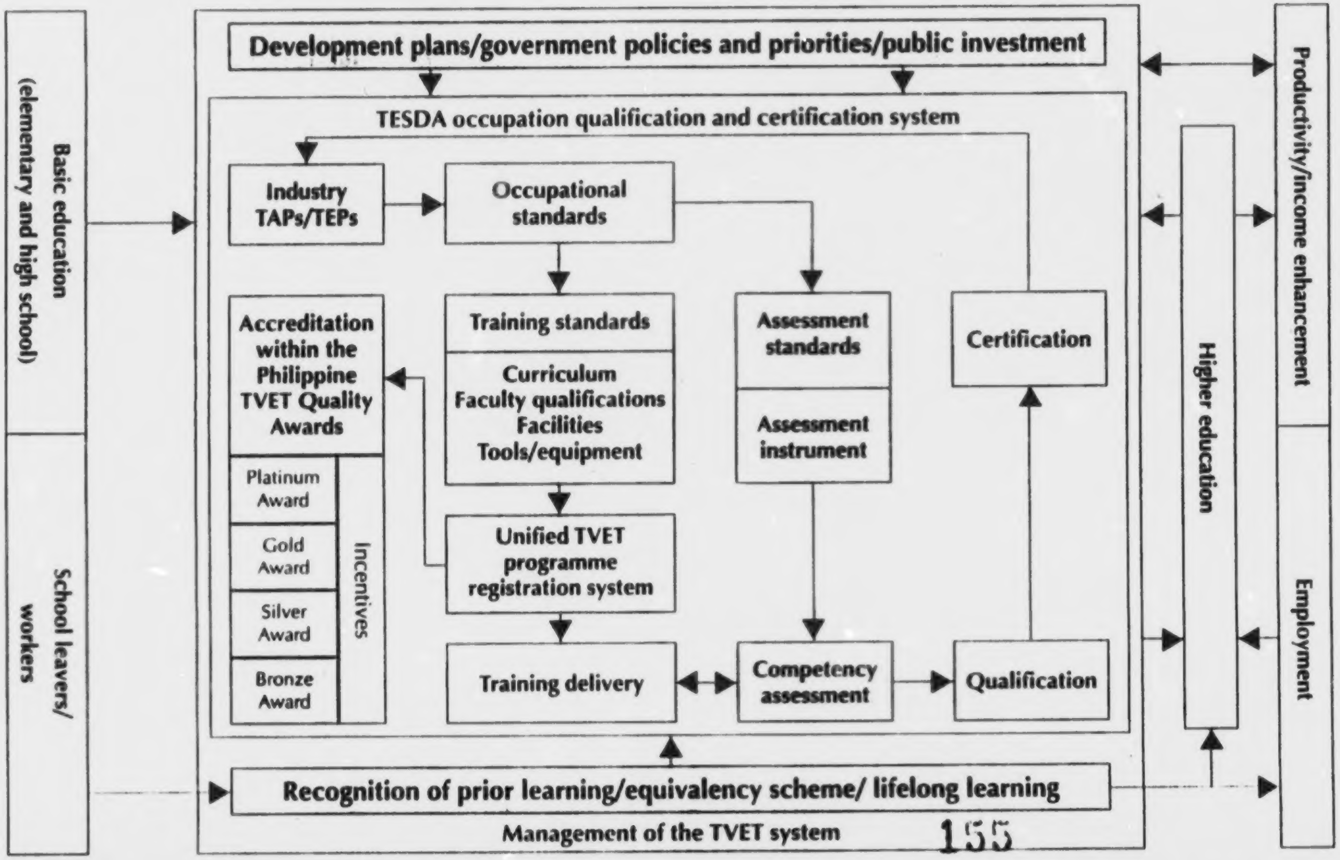
Figure 2: Quality assured Philippine TESD system


Basic education (elementary and high school)
School leavers/ workers
Development plans/government policies and priorities/public investment
TESDA occupation qualification and certification system
Industry TAPs/TEPs
Occupational standards
Accreditation within the Philippine TVET Quality Awards
Platinum Award
Gold Award
Silver Award
Bronze Award
Incentives
Training standards
Curriculum
Faculty qualifications
Facilities
Tools/equipment
Unified TVET programme registration system
Training delivery
Assessment standards
Assessment instrument
Competency assessment
Certification
Qualification
Recognition of prior learning/equivalency scheme/ lifelong learning
Management of the TVET system
Higher education
Productivity/income enhancement
Employment

Placement, testing and certification and scholarships

Graduates who were placed totalled 20 435 in 1995, an increase of 41 per cent from the 1988 level. Placement for graduates on probationary status and on-the-job training dropped by 38 per cent to 9795 in 1995. Both outputs seemed to be relatively low at 16 per cent vis-à-vis the total training output.

Trade testing increased continuously from 1989 to 1993, to 81 840, but fell in 1995 to 49 686. The biggest decrease is observed in the 'other services' trade area. The most popular trade areas for skills testing are in occupations related to the automotive/transport, electrical and electronics trades.

Scholarships slots for degree and technical/vocational programmes were made available through the Private Educational Student Fund Assistance (PESFA) and the Science and Technology Scholarship for technician and technical courses. For the school years 1995–96 and 1996–1997 there were total slots of 24 960 and 17 847, respectively.

Profile of graduates of technical vocational education

Based on the 1994 census on the Functional Literacy, Education and Mass Media Survey (FLEMMS, conducted in November 1994 by NSO in co-operation with DECS), 15 353 persons aged 15 and up are trained in short-term courses, and 15 600 in long-term (post-secondary technical/vocational) courses. Among the short-term training, craft and related courses are popular and mostly taken in by 10 670 or 70 per cent of the sample trainees. For long-term or post-secondary technical/vocational courses, computer, electronic, automotive and transport-related courses are preferred and taken mostly by 11 001 or 70 per cent of the group.

According to FLEMMS, 21 220 or 69 per cent of the sample were employed during the past week at the time of survey. Of the total persons employed 8423 or 40 per cent were engaged in production, transport and equipment-related jobs. Employment in wage employment is slightly higher (57%) than non-wage employment (43%).

According to the study, labour market prospects seemed to be stiff and competitive with a high unemployment rate of 31 per cent. It can be noted that 54 per cent of unemployed persons opted to do housekeeping rather than continuously look for work because there may be no jobs available for them. Or, if there are other types of jobs available, these jobs may not be related to their acquired training.

In the survey, 49 per cent of the unemployed attended training because they wanted to learn skills as a means to increase their household income. It is important to note that the length of waiting period to get employed poses implications on the relevance and utilisation of acquired skills in jobs.

The FLEMM Survey included 3837 out-of-school youth (OSYs) aged 7 to 24 years old, of whom 7 to 14 years old account for 67 per cent. Of the total OSYs, 13.5 per cent were in the National Central Region.

Skills maps and skills standards

Skills standards and associated training regulations are embodied in the Philippine TESD System framework as spelled out in the TESDA Occupation Qualification and Certification System (TOCQS). The TOCQS is discussed in detail in later sections.

Major organisations involved in VTET, and their roles

The Republic Act 7796 created the Technical Education and Skills Development Authority (TESDA) from the three main providers of technical education and vocational skills training prior to the enactment of the law, namely:

- the Bureau of Technical and Vocational Education of the Department of Education, Culture and Sports (DECS) for formal school-based vocational education
- the National Manpower and Youth Council for non-formal training
- the apprenticeship programme of the Department of Labour and Employment

The major sectors involved in TVET are represented extensively in the TESDA Board: the employer sector, private industries, labour groups and private TVET providers. Likewise, the government departments most involved in TVET are represented on the Board: the Department of Labour and Employment, DECS, the Department of Trade and Industry , the Department of Agriculture, the Commission on Higher Education, the Department of Interior and Local Government, and the Department of Science and Technology.

The technical training and development of government workers is spearheaded by the Civil Service Commission (CSC). The Skills Certificate Equivalency Programme, being conducted by TESDA, may be converted by the CSC into an eligibility certificate for government technical positions.

The VTET certification system

Overview of the basic model

The basic model for certification is a single national framework based on occupational skill competencies. Called the TESDA Occupation Qualification and Certification System (TOQCS), which is designed to 'innovate on processes and methodologies (along) skills standards, testing and certification', it aims to expand and rationalise the National Skills Certification Programme (NSCP) of the then NMYC and the qualification standards in the National Competency Framework of the DECS by:

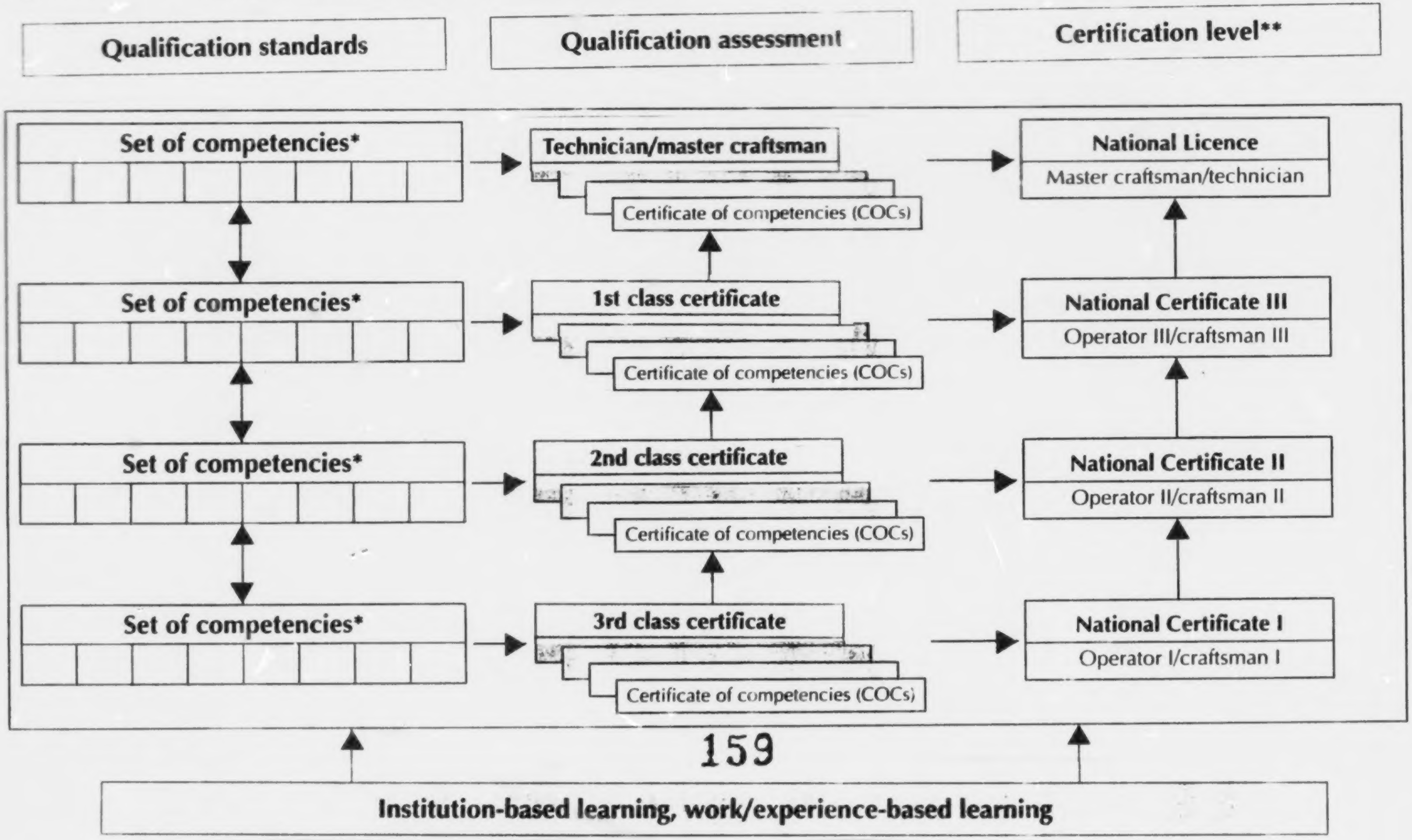
- providing for more entry points to certification
- providing for recognition of prior learning
- focussing on specific competencies
- integrating the existing occupational skills testing and certification programme of the formal, informal and non-formal TVET sectors

Under the TOQCS framework, the existing occupational skills standards, which are industry-based and developed by industry experts via TESDA-accredited industry organisations, will be the take-off point of all qualification and certification activities. Units of competence are the building blocks of the certification system. They may be taken singly, in small groups leading to the award of a statement of attainment, or as a complete set leading to the award of a full qualification. Provision is made for recognition of prior learning and unit-of-competence equivalencies, and the system acknowledges the importance of lifelong learning.

The system includes the following principles:

- *Competency-based learning*: The system operates on a competency-based learning wherein each level has a set of qualification requirements (i.e. a set of competencies) as set forth in the occupational skill standard developed and endorsed by the industry.
- *Curriculum and other training materials development*: The development initiatives are encouraged at institutional level. The interested institutions may develop their training designs beyond the minimum requirement following the approved TESDA format and training regulations.
- *Trainer certification*: The national trainer certification programme shall be developed in accordance with the TOQCS. Possession of skill certificates under the TOQCS shall be a requirement for trainer certification. Trainers should have at least the same level of qualification as with the programme to be conducted.

Figure 3: TESDA occupation qualification and certification system


Qualification standards
Qualification assessment
Certification level**
Set of competencies*
Technician/master craftsman
Certificate of competencies (COCs)
National Licence
Master craftsman/technician
Set of competencies*
1st class certificate
Certificate of competencies (COCs)
National Certificate III
Operator III/craftsman III
Set of competencies*
2nd class certificate
Certificate of competencies (COCs)
National Certificate II
Operator II/craftsman II
Set of competencies*
3rd class certificate
Certificate of competencies (COCs)
National Certificate I
Operator I/craftsman I
Institution-based learning, work/experience-based learning

* Each level has several competencies. A Certificate of Competency (COC) will be issued upon completion/passing of the test.

** Completion of all the competencies within a level will entitle a Statement of Competency.

*** Certification will have a validity period which will be recommended by the sector through TAP.

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- *Recognition of prior learning (RPL)*: The TOQCS provides a framework that facilitates the entry and exit in the educational system through the recognition of skills and knowledge acquired anywhere.

Implementation of the model

The TOQCS is implemented by the TESDA through a range of authorities and boards which ensure that all relevant parties provide input into the certification system. By the beginning of 1999 some of the arrangements described below were still in the process of being implemented.

The *TESDA Board* provides policy direction in the development of training regulations.

TESDA Advisory Panels (TAP) recommend to the TESDA Board priority titles for development based on research, studies and first-hand information and recommends industry experts, workers and educators for membership in the *TESDA Expert Panels (TEP)*. The TEPs formulate the skills standards and the assessment instruments and sends them to the practitioners for validation and to the TESDA Board for approval and adoption.

The *Skills Standards and Certification Office (SSCO)* manages the nationwide implementation of the TOCQS.

TESDA regional offices oversee the implementation of TOQCS at the regional level. They co-ordinate and monitor all assessment activities within their jurisdiction and integrate all reports in accordance with the National Manpower Information System format.

Regional Competency Assessment and Certification Sub-Committee (RCACC) to be created under the RTESDC to ensure effective implementation of TOQCS regionwide. The RCACC will consist of representatives from the industry, labour group/workers' guilds, TVET institutions, chairpersons of PCACCs and the TESDA regional director.

TESDA provincial offices implement the TOQCS and assist the PTESDC in creating the Provincial Competency Assessment and Certification sub-Committee (PCACC). It acts as secretariat of the PCACC, facilitates the administration of assessment and the issuance of statements of achievement to those who passed the assessment in their respective province, and accredits assessment centres and assessors to assist the province in the implementation of the programme.

Provincial TESD Committee (PTESDC) deliberates on recommendations proposed/presented by the PCACC in regard to TOQCS implementation. The PTESDC creates a PCACC that will support TESDA in the implementation of TOQCS at provincial level.

Provincial Competency Assessment and Certification sub-Committee (PCACC) deliberates on matters and conduct of activities pertaining to TOQCS in the province and conducts assessment activities in accordance with TESDA methodology. Membership includes TESDA, public and private VTET institutions, representatives from the labour sector or workers' guild, and relevant industry associations. Any expansion of membership must always reflect a more dominant private sector representation.

Certification authorities

The TESDA provincial offices accredit assessors and assessment centres/venues. An accreditation fee will be collected by TESDA provincial offices from applying centres/venues and assessors. Accreditation of assessment centres/venues will apply only to registered legitimate institutions or establishments which meet the following requirements:

- With organisational structure to support the programme to include the following:
  - a pool of assessors who shall administer the occupational skills assessment
  - an assessment centre administrator—the person who shall be charged with the overall management and administration of the assessment and certification
  - documentation/secretariat unit—clerical staff who shall take charge of the processing of applications for assessment and preparing of reports and other administrative concern of the centre
  - the assessment centre must have the assessment facilities, tools and equipment set forth in the occupational skills assessment instruments
- The assessor shall comply with the following qualification requirements for accreditation:
  - must be a practitioner of the occupation or a teacher/instructor/trainer of skills, knowledge and values for the occupation for at least two years
  - must be certified in the area or occupation where he/she is going to serve as assessor
  - successful completion of the Assessors' Course (TTOC)

Accreditation of assessor by endorsement

- Qualified for this accreditation are persons who are practising the trade or teaching the knowledge and skills for the identified occupations (e.g. teachers/ trainers).
- The accreditation by endorsement shall be temporary and the affectivity of which shall depend on the need but in no case shall it exceed one year.
- TESDA regional/provincial offices may waive some of the requirements of regular accreditation, depending on the applicability of such requirements and/ or by recommendation of the PCACC except for the satisfactory administration of a test to at least 20 applicants for assessment.
- The assessor must have been endorsed by a duly recognised association related to the occupation.

TVET providers may apply for accreditation as an assessment centre/venue. Once accredited, TVET providers are authorised to recommend qualifications and statements of attainment to persons who successfully complete accredited programmes.

For apprentices completing their training in a trade or craft, certificates are issued by the regional offices of TESDA.

Types and levels of qualifications

Occupational skills qualifications, when acquired, shall be equivalent to a particular certification level.

There are four levels of qualification which correspond to four certification levels.

Level I—National Certificate I (lowest level)

Certified persons can operate simple and basic machines and equipment, interpret and draw simple blueprints and diagrams, perform routine tasks such as cutting pre-measured parts and assembling pre-cut parts. They have the ability to do simple calculations and estimates and perform simple preventive maintenance such as cleaning machines and equipment.

Level II—National Certificate II

Certified persons can perform fabrication works, operate relatively complex machinery and equipment such as those with computer-assisted and programmable gadgets and perform tasks with minimal tolerance such as finishing work.

Level III—National Certificate III

Certified persons have the ability to lead a small group to do a specific task, to analyse and evaluate troubleshooting system/equipment/process malfunction and perform a whole range of work of an occupation at a high level of competence including those involving technical decision-making, limited interpretation and execution of plans and design.

Level IV—National License (highest level)

Certified persons can translate engineering designs and concepts into practical actions in the workplace, supervise the work of skilled workers and perform work involving programming calculations and fine-tuning of equipment, systems and processes.

Each level has a set of competencies with its corresponding assessment instrument that will evaluate the level of knowledge, attitude/work values and skills of a person. The competencies have been promulgated by the TESDA Board and formulated, validated and recommended by expert practitioners of the trade constituted as the TESDA expert panels.

The outcomes of apprenticeship training in trades and crafts, the dual system and distance education are included in this qualification structure.

Standards for certification

The regulations and procedures for administering the certification standards under TOCQS are outlined below.

- An applicant who meets the requirements set by the industry should demonstrate the competency. In recognition of the possession of the competency, a numbered certificate will be issued to the examinee. The final certification of workers' competencies is under the exclusive concern and power of TESDA by virtue of its overall regulatory functions. The validity period of the certificate will be recorded on the certificate of competency.
- Applicants may seek competency assessment based on previous learning which may be obtained from working experience or relevant education or training.
- The assessment programme shall utilise the competency assessment prescribed for each competency. Only accredited assessment centres are authorised to administer assessment. The conduct of assessment must follow the procedures specified by TESDA.
- Each occupational area will have its own assessment fee based on actual cost of supplies and materials, administrative and minimum number of examinees.

Quality assurance

The framework for assessment and certification is designed to ensure, inter alia, that quality is maintained. A number of arrangements for sanctions also operate to promote quality.

The accreditation issued to an assessment centre or venue will be revoked:

- if the centre/venue has an administrative or civil case filed against the owner(s)
- if the assessment centre violates any of the defined provisions in the Memorandum of Agreement
- if the centre/venue exacts fees beyond the allowed assessment fees
- if for accepting and/or offering bribes

The accreditation of assessors will be revoked:

- in cases where a complaint against the assessor is found to be valid
- if there is any violation of the rules and regulations specified for assessors

Persons availing of certification under the TOQCS will fill out a personal information sheet and submit other documents that may be required. Any wilful misrepresentation, falsification or commission of fraud on the part of the applicant will be grounds for cancellation of certification and disbarment from taking similar competency assessments.

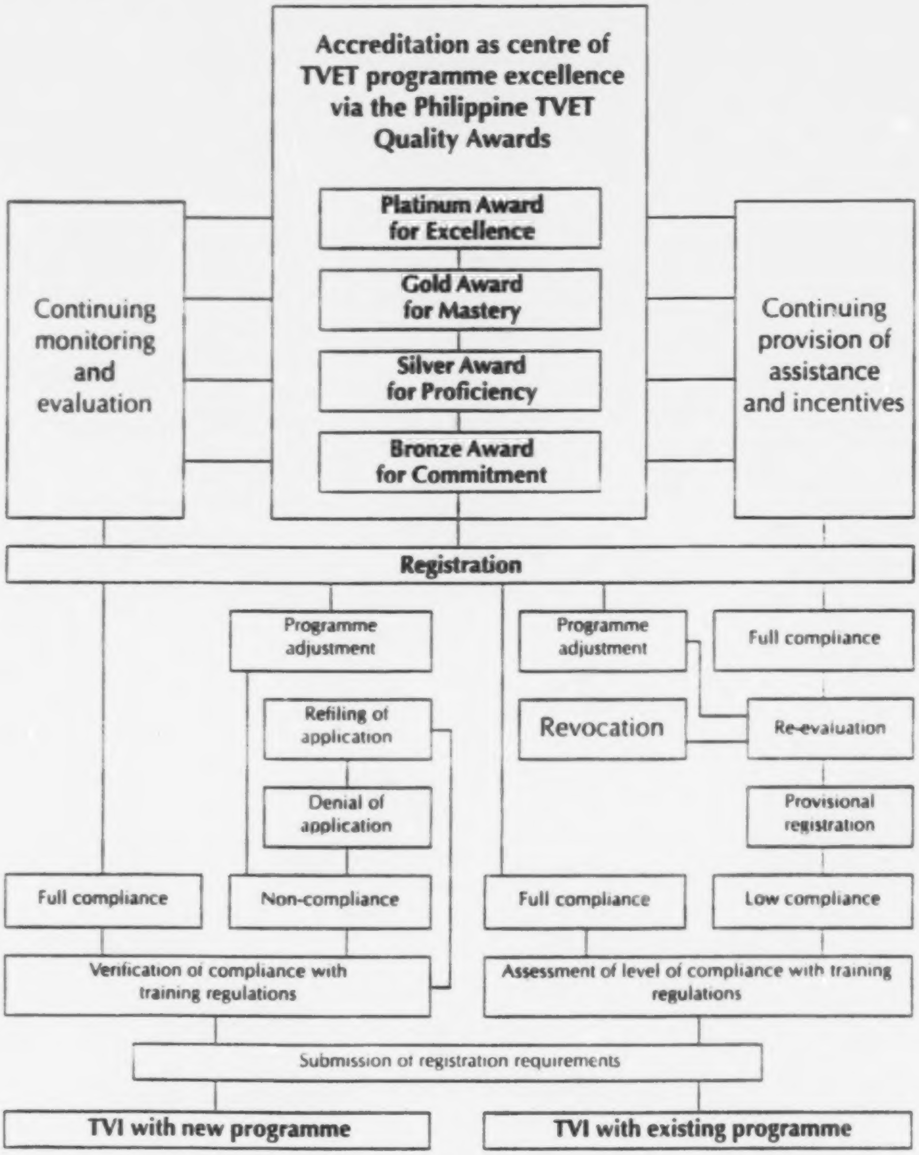
All the data gathered about the applicant from the personal information sheet and from the subsequent assessment process shall be entered into the appropriate data sets of the TOQCS and the Manpower Registry System of the National Manpower Information System.

The accreditation system for TVET programmes

The Unified TVET Programme Registration and Accreditation System has been established in the Philippines. It replaces the previous permit and recognition system specified in the Manual of Regulation of the Department of Education, Culture and Sports.

In January 1998, the TESDA Board passed a resolution approving the establishment of a unified TVET programme registration and accreditation system which will be consonant with the pursuit of a quality technical vocational education and training system. The guidelines to implement the reforms became effective on 8 June 1998.

Figure 4: Unified TVET programme registration and accreditation system process flow


Accreditation as centre of TVET programme excellence via the Philippine TVET Quality Awards
Platinum Award for Excellence
Gold Award for Mastery
Silver Award for Proficiency
Bronze Award for Commitment
Continuing monitoring and evaluation
Continuing provision of assistance and incentives
Registration
Programme adjustment
Programme adjustment
Full compliance
Refiling of application
Revocation
Re-evaluation
Denial of application
Provisional registration
Full compliance
Non-compliance
Full compliance
Low compliance
Verification of compliance with training regulations
Assessment of level of compliance with training regulations
Submission of registration requirements
TVI with new programme
TVI with existing programme

Registration of TVET programme

All post-secondary programmes in industrial trades and crafts, agriculture, fishery, services and home industries, among others, are covered by the

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system. TVET programmes, whether consisting of one module or a set of modules, will be subject to registration under the Unified Training Programme Registration and Accreditation System (UTPRAS).

Apprenticeship and dual-training programmes are also covered by the registration system. The implementation of these programmes, however, will be guided by the respective specific guidelines governing such programmes.

Basic principles

Under the new arrangements it is intended that:

- the registration system will be consistent with the competency-based TVET programme delivery system which will be the basis for the design and implementation of an equivalency system in TVET
- the registration system prescribes full compliance with TESDA training regulations prior to the grant of a registration certificate
- the implementation of the unified TVET programme registration system shall generate a comprehensive national database of TVET programmes essential to the effective management of the TVET sector

Registration processes

The concerned TVET institution shall file a letter of intent with the nearest TESDA provincial office not later than three months prior to the time that the institution will offer the new programme, or within one year from the date of effectivity of these guidelines, in case of existing programmes.

A checklist of requirements (UTPRAS Form No. 1) shall be accomplished by the provincial office upon receipt of the documents. Only applications with complete supporting documents shall be officially received for evaluation. Incomplete applications shall be promptly returned to the applicant institution.

The letter of intent shall be supported by the applicable requirements enumerated above, together with the payment of non-refundable registration fee of two thousand pesos (P2000) which shall be duly receipted. The registration fee may be waived for programmes which are offered by government agencies and local government units to serve their own constituencies and beneficiaries, as well as for apprenticeship programmes initiated by employers for their own prospective workers.

The TESDA provincial office is responsible for evaluating the information submitted. Curriculum evaluation will be undertaken together with inspection and verification of faculty qualifications, training supplies and materials, tools, machines and equipment and site and facilities within three months of application. The provincial office will employ the services of a panel of technical experts in the inspection, verification and assessment of all applications for TVET programme registration.

Quality assurance

All TVET programmes which are either fully or provisionally registered shall be subject to periodic monitoring to identify areas of possible assistance.

Assistance and incentives shall be extended to registered TVET programmes to upgrade the capabilities of concerned TVET institutions for improved programme delivery.

Registration authorities

The Republic Act 7796 otherwise known as the TESDA Act of 1994 empowers TESDA, through the Office of Formal Technical Vocational Education and Training (OFTVET), the Office of Non-formal Technical Vocational Education and Training (ONFTVET) and the Office of Apprenticeship (OA), to establish and maintain a system for accrediting, co-ordinating, integrating, monitoring and evaluating formal and non-formal technical vocational education and training programmes.

Administratively, TESDA's responsibilities for registration are discharged through a network of provincial and regional offices, supported by a range of advisory committees.

Requirements for registration

The proponent of a new programme must submit a competency-based curriculum based on prescribed training regulations and supported by a programme feasibility study. Likewise the proponent, when submitting an application for registration of a new TVET programme or an existing TVET programme, must supply:

- copies of the corporate papers of the TVET institution
- details of faculty qualifications and subjects handled
- a list of training supplies and materials, tools, machines and equipment
- details of physical facilities, including laboratory and library holdings

- academic rules, including entrance requirements, study loads, grading system for achievement and performance tests and rules on attendance
- details of other support programmes, including research and development programmes, linkages and community service programmes, and production-cum-training programmes

Sanctions

TVET institutions which are found to have conducted TVET programmes without complying with registration requirements are subject to sanctions as specified in the Educational Act of 1982, which provides that any person upon conviction of an act in violation of the authorisation requirements shall be punished with a fine of not less than two thousand pesos (P2000) nor more than ten thousand pesos (P10,000) or imprisonment for a maximum period of two years, or both, at the discretion of the court. If the act is committed by a corporation, the school head, together with the person or persons responsible for the offence or violation will be equally liable.

For fraud or deceit committed in connection with the application for registration, unauthorised operation of a course or any component thereof, and unauthorised advertisements or announcements relative thereto, the authority, through the TESDA regional offices, will revoke the certificate of registration after due process.

Advantages of registration

Under the new Philippine TVET system, only registered programmes are allowed to be conducted and non-registered programmes shall have no access to government assistance and incentives. Likewise, only registered programmes can be accredited as providers for state-run and/or TESDA managed grants and scholarships. As a result, it is expected that TVET providers who are not accredited will be at a disadvantage in the open training market and will be less attractive to students seeking nationally recognised and accepted qualifications.

Only registered TVET programmes shall be eligible for accreditation under the Philippine TVET Quality Awards, and only registered programmes will appear on the national listing. All registered programmes, whether fully or provisionally registered, will be included in the roster of TVET programmes which shall be updated and published regularly by TESDA at all levels.

New initiatives and developments

The arrangements for the accreditation of VET providers in the Philippines are integrated with the arrangements for the accreditation of VTET programmes (see page 157). The accreditation guidelines cover all public and private institutions offering or intending to offer TVET programmes, including enterprise-based programmes.

Institutions intending to offer a TVET programme shall be required to fully comply with prescribed training regulations. The concerned institution will identify the set of competencies that the proposed programme intends to develop.

The registration system will be closely tied up with the provision of assistance and incentives that will allow an institution to continually upgrade training delivery.

Process for establishing a new TVET programme

A training provider, government agency or employer may apply for registration of a new TVET programme. New programmes may be developed in a variety of ways, depending on the training needs being addressed. Once application has been made, the processes outlined in section 5.7.2 apply. Any change to a presently registered programme beyond 30 per cent of curricular content will be considered an application for a new programme.

The accreditation systems for TVET providers

The accreditation process

Accreditation of TVET providers is linked to registration to conduct specific TVET programmes. Blanket approval to conduct any TVET programme is not a feature of the Philippine system. Consequently, the processes for registration of TVET programmes are described on page 157 as part of the description of the accreditation processes for TVET providers.

Quality assurance: The Philippine TVET Quality Award

TESDA is required to create and provide the environment for quality and excellence in TVET. A system of levels of recognition and quality awards for

VTET providers is one of the strategies adopted for promoting quality and improvement.

The highest level of recognition shall be achieved by a TVET institution through accreditation as a centre for TVET programme excellence via the Philippine TVET Quality Awards.

Only institutions with registered programmes may express its intention to commit for the Philippine TVET Quality Award. An institution shall work its way up from the Bronze Award for Commitment, to the Silver Award for Mastery, to the Gold Award for Proficiency and finally to the Platinum Award for Excellence. The accreditation of a programme shall be subject to re-evaluation at the instance of the institution. As such, accreditation shall not be perpetual, but shall involve continuing assessment, with the provision of assistance and incentives as a possible consequence at every stage.

The rules and procedures of the Philippine TVET Quality Awards are consistent with those of the Philippine Quality Awards promulgated by the Philippine Council for Productivity. Accreditation of an institution is entirely voluntary on the part of the institution.

Accreditation authorities

Accreditation of TVET providers rests with TESDA and its provincial and regional offices. Providers may also apply to TESDA separately for accreditation as an assessment centre/venue, as previously outlined.

Criteria for accreditation

The Philippine TVET Quality Award is based on a self-assessment process involving seven criteria: leadership, strategy, policy and planning, information and analysis, people, customer focus, processes, products and services, and organisational performance. The self-assessment is confirmed by a team of external experts.

Apprenticeship schemes

In many countries the system known as *apprenticeship* is an important means of training people in specific vocations, usually trades. Enterprise-based training in trades and crafts is an important component of the technical and vocational education and training system in the Philippines. Each year persons who successfully complete training under apprenticeship arrangements contribute to the national stock of vocational and technical skills.

The unified Technical Education and Skills Development (TESD) System which came into effect in 1998 extends to the training of apprentices. Responsibility for administering the apprenticeship system now rests with TESDA through its Office of Apprenticeship.

As part of the new arrangements, the provisions of the contract of training between the employer and an apprentice have to be subject to the same qualification requirements under the TESDA Occupational Qualification and Certification System (TOQCS). Revision of existing laws governing apprenticeship as stated in the Labor Code and in Executive Order 111 are underway to reform the apprenticeship system in the Philippines and to popularise it as a modern TESD delivery mode.

Cognizant of the effectiveness of learning in the work place, the dual system of training is becoming the better and preferred mode of TESD delivery. While apprenticeship is a totally worksite-based system, the dual system of training is a systematically combined in-school and on-the-job learning arrangement. School-based curricula are designed to be undertaken partly in industry and the mechanism of school-industry co-ordination is strengthened by partnerships in curriculum development, training of trainers, joint evaluation and other mechanisms that will enable both parties to have shared stakes in the outcome of TESD. The Philippines dual-system law provides for financial incentives for companies participating in the dual training system.

The last two years have seen a steady growth in the number of private companies and industry associations establishing small industry-specific TESD institutions. Examples are the Hotel and Tourism Institute of the Philippines owned by the Hotel and Restaurant Association of the Philippines Foundation, the Solid Educational System of Sony Philippines, the Philippine Construction Association—Roosevelt College Dual System Programme, the Monark Equipment Training Institute of Asia and others.

Note

1 The acronym TVET (technical and vocational education and training) is used by Philippine agencies, but has exactly the same meaning in practice as VTET.

Sea of Japan
Yellow Sea
East China Sea
Bonin Is
Tropic of Cancer
PACIFIC
BURMA (MYANMAR)
Hanoi
VIETNAM
THAILAND
Rangoon
Bangkok
CAMBODIA
Ho Chi Minh City
Phnom Penh
South China Sea
Luzon
PHILIPPINES
Manila
Caroline Is
Palau Is
Palawan
Mindanao
Davao
Sulu Sea
Zamboanga
Celebes Sea
Halmahera
New Guinea
Moluccas
Sarawak
Borneo
Medan
Kuala Lumpur
Kuching
SINGAPORE
Celebes
INDONESIA
Ujung Pandang
Jakarta
Java Sea
Surabaya
AUSTRALIA

Training systems in South-east Asia

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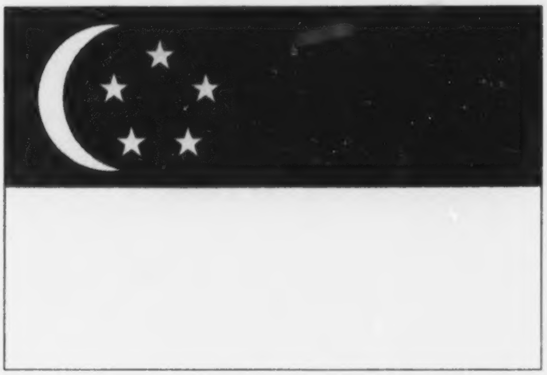
Singapore



Introduction

Singapore is an equatorial country with relatively uniform temperature, abundant rainfall and high humidity throughout the year. It consists of the main island of Singapore and some 63 offshore islands. The total land area including the offshore islands is about 647.5 square kilometres.

Singapore's resident population, comprising Singapore citizens and permanent residents was estimated at 3 million as at June 1996. Its population density was about 4700 residents per square kilometre. Residents below 15 years of age formed 22.8 per cent of the resident population while those aged 60 years and over comprised 10 per cent. Singapore is a multi-cultural country with 77.3 per cent Chinese, 14.1 per cent Malay, 7.3 per cent Indian and 1.3 per cent others. The literacy rate is 87 per cent.

There were 1 748 100 employed persons aged 15 years and over in June 1996. The majority were employed in the manufacturing (23.2%), commerce (23.2%), community, social and personal services (21%) and financial, insurance, real estate and business services sector (14.1%).

Singapore is an urban and industrialised country and 100 per cent of its population is considered urban. It has a strong and vigorous economy and its major industries are petroleum refining, electronics, oil drilling equipment, rubber processing and production, shipping and ship repair.

Overview of the education and training system

The educational system comprises of six years primary education, four or five years of secondary education, two or three years of post-secondary TVET, or university education of four years or more. Graduation from one level to the next is dependent on attainment of the General Certificate of Education prescribed for specific levels.

The education and training system in Singapore is shown in figure 1.

Primary and secondary education

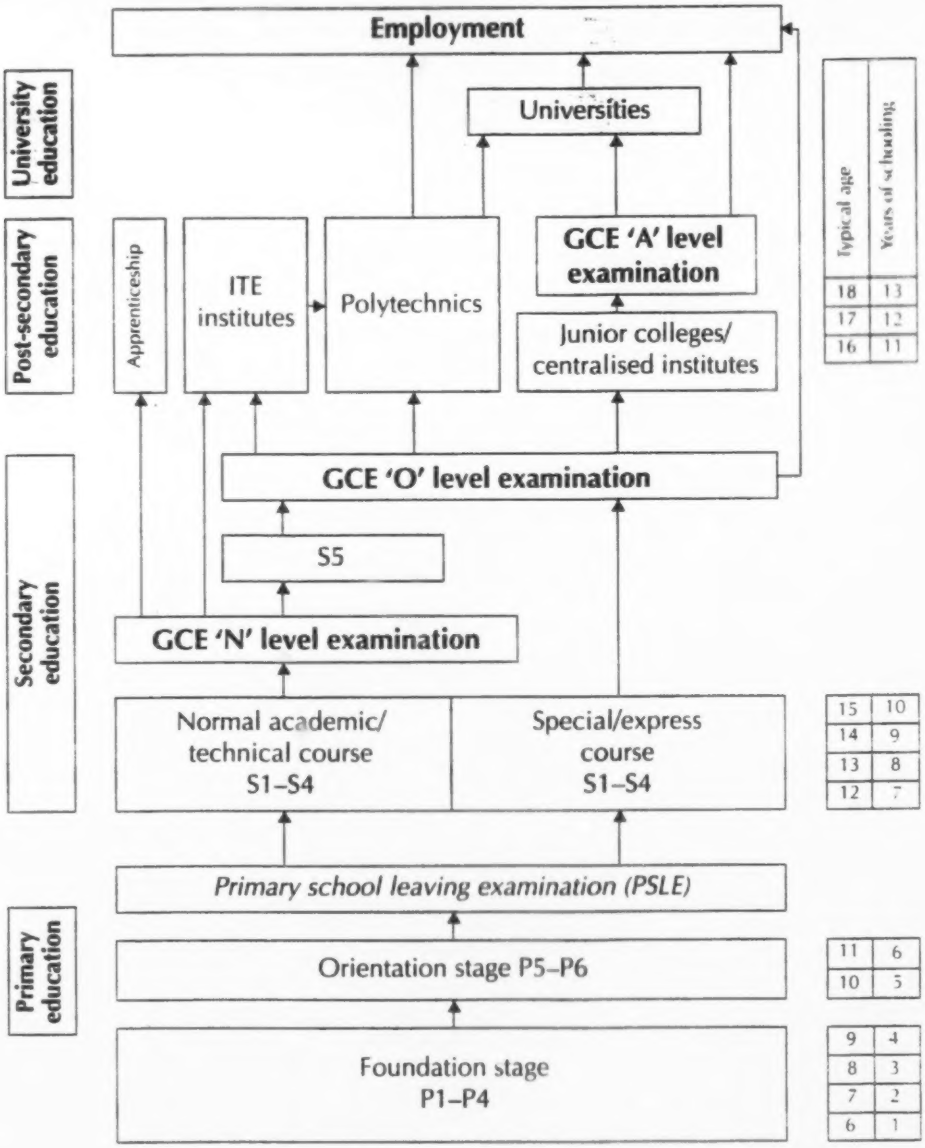
The primary and secondary schools provide the ten years of basic education to all pupils before proceeding to further education and training.

Beginning in Primary One at age six, a child spends at least six years in primary school, where the focus is on the three core subjects; English, mathematics, and the mother tongue. Primary education consists of a four-year foundation stage and a two year orientation stage. At the end of the foundation stage at Primary Four, pupils are placed in one of three language streams according to their abilities.

Following successful completion of the Primary School Leaving Examination (PSLE), he/she enters secondary school where he/she continues for another four to five years before sitting for the Singapore-Cambridge General Certificate of Education 'Ordinary' (GCE 'O') level examination.

At the secondary level, pupils have a choice of three courses on the basis of their PSLE results. Designed to match their learning abilities and interests, these courses feature differing curricular emphases. They also provide pupils

Figure 1: Singapore education and training system


Employment
Universities
University education
Post-secondary education
Apprenticeship
ITE institutes
Polytechnics
GCE 'A' level examination
Junior colleges/ centralised institutes
Typical age
Years of schooling
18 13
17 12
16 11
Secondary education
GCE 'O' level examination
S5
GCE 'N' level examination
Normal academic/ technical course S1–S4
Special/express course S1–S4
15 10
14 9
13 8
12 7
Primary school leaving examination (PSLE)
Primary education
Orientation stage P5–P6
11 6
10 5
Foundation stage P1–P4
9 4
8 3
7 2
6 1

with the opportunity to develop at their own pace. The majority of pupils undergo the four-year Special and Express courses to prepare for the GCE 'O' level examination, whilst the other pupils enter the Normal (academic) course or the Normal (technical) course, both of which lead to the GCE 'Normal' ('N')

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level examination at the end of four years. Those who do well may continue for a fifth year and sit for the GCE 'O' levels.

Depending on their inclinations and qualifications following the GCE 'N' or 'O' levels, pupils may then continue their post-secondary education in the technical or commercial institutes under the Institute of Technical Education (ITE), in the polytechnics to pursue diploma courses, or in the centralised institutes, or the junior colleges to prepare themselves for the Singapore-Cambridge GCE 'Advanced' ('A') level examination. Their results determine their eligibility for tertiary education.

According to national targets, about 25 per cent of a school cohort after completing secondary schooling will proceed to junior colleges, 40 per cent to the polytechnics and 25 per cent to the Institute of Technical Education (ITE). The average cohort size is 40 000 school leavers.

Overview of the vocational technical education and training system

Vocational technical education and training in Singapore undergoes significant changes regularly to be relevant and responsive to the national policy of keeping education abreast with the changes in technology, the economy and the aspirations of students, trainees and workers in particular and society in general. The TVET system is designed to address the manpower requirements of the economy that are fairly well assessed by the Ministry of Trade and Industry on five- and ten-year projections. The certification standards and the curriculum are designed with the active participation of experienced workers and supervisors in industry.

In general, the cost of VTET in Singapore is heavily subsidised by the government to as high as 96 per cent of tuition costs. One hundred per cent of capital costs are met by the government.

The VTET in Singapore is provided by the institutions specifically set-up to meet the different levels of manpower needs. The post-secondary technical and vocational education was designed on three tiers. The first level meets the country's high level management needs including professional requirements. The second level provides the engineering technicians and the middle level managers. The third level caters to the skilled manpower needs. The system places a very high emphasis on the continuing education of its workforce in order to keep them up-to-date.

The technical education and training in Singapore is provided by the four polytechnics, the ITE and some other organisations involved in VTET. Apprenticeship and basic vocational training are also provided.

The polytechnic system

The four polytechnics offer 3-year full-time diploma courses for mainly 'O' level certificate holders and 2-year part-time advanced diploma courses for diploma holders.

- Singapore Polytechnic: The Singapore Polytechnic was established in 1954. It is the oldest polytechnic in Singapore. It offers over 45 full-time and part-time courses leading to diploma and advanced diploma in business, engineering, information technology, maritime studies, multimedia and optometry. In 1997, the intake of new students was 6050, including part-time students. The total full-time student enrolment was 13 912 in 1996.
- Ngee Ann Polytechnic: Ngee Ann Polytechnic was established in 1963. It offers 25 full-time and part-time courses at the diploma and advanced diploma levels in business, engineering, information technology, mass communication and film, and sound and video. The polytechnic admitted 5010 full-time and part-time students in 1997. The total full-time student enrolment was 14 480 in 1996.
- Temasek Polytechnic: Temasek Polytechnic was established in 1990. It offers 34 full-time and part-time courses at the advanced diploma and diploma levels in business, engineering, information technology and applied science, design, library and administration. In 1997 the intake of new students was 1320, including part-time students. The total full-time student enrolment was 7681 in 1996.
- Nanyang Polytechnic: Nanyang Polytechnic (NYP) was established in 1992. It offers 27 full-time and part-time diploma courses in business, engineering, information technology and health science. In 1997, the polytechnic admitted 3230 full-time and part-time students. The total full-time student enrolment was 7764 in 1996. The Nanyang Polytechnic has been converted from the Nanyang University.

The Institute of Technical Education

The Institute of Technical Education (ITE) was established in 1992 to take over the functions of the Vocational and Industrial Training Board (VITB). The ITE provides a full-time institutional training and apprenticeship programme for school leavers as well as continuing education training programmes for workers.

The ITE technical institutes

School leavers with GCE 'O' or 'N' level qualifications can take up full-time skills training at ten ITE technical institutes. They can select from a wide range of courses in electrical, electronics, mechatronics, mechanical, precision engineering, business studies and drafting. In 1997, the intake of full-time students and apprentices were 5304 and 972 respectively. A total of 27 736 training places was taken up by workers under the skills training programmes.

The four levels of courses are:

- *Industrial Technician Certificate (ITC)*: ITC courses are for GCE 'O' level school leavers. These provide broad-based training in major engineering fields. ITC courses prepare students to be engineering technicians.
- *National Technical Certificate Grade 2 (NTC–2)*: NTC–2 courses are for both GCE 'O' and GCE 'N' (academic or technical) level holders. They provide broad-based training in a wide range of technical areas. NTC–2 courses prepare students to be skilled technical workers.
- *Certificate in Business Studies (CBS)*: CBS courses are GCE 'O' level school leavers. They provide broad-based training in either accounting or secretarial areas. CBS courses prepare students for employment as accounts assistants, secretaries and related functions in commerce and industry.
- *Certificate in Office Skills (COS)*: The COS course is for GCE 'O' and GCE 'N' (academic or technical) school leavers. This course provides training in general office skills. It prepares students for employment in the administrative and related office occupations.

Other training providers

There are other major organisations that are involved in VTET and they offer courses specific to their affiliated industries. Some of them are listed below :

- Singapore Hotel and Tourism Education Centre (SHATEC): It offers full-time and part-time programmes mainly for the hotel and tourism industry ranging from hotel management at diploma and higher diploma level to certificate programmes such as food and beverage operations and accommodation operations.
- *Institute of Productivity Training (IPT)*: The IPT is the training arm of the Productivity and Standards Board. It offers more than 100 programmes comprising short application programmes and examinable programmes, full time or part time. It also offers in-house training packages custom-designed for a company's needs.
- *Construction Industry Training Institute (CITT)*: The CITT conducts training and testing programmes for workers, supervisors and managers in the construction industry. Training programmes can be full time or part time.

- *Port of Singapore Authority Institute (PSAI)*: The PSAI provides full-time or part-time training for personnel working in the shipping and maritime industries in courses such as port management and operations, port equipment and handling, transportation and storage of dangerous goods.
- *National Maritime Academy (NMA)*: The Academy conducts full-time and part-time courses for both officers and ratings at pre-sea and post-sea upgrading level, including various ancillary safety courses to meet the needs of the shipping industry. The courses prepare officers for the various classes of Certificate of Competency examinations.

Apprenticeship training

Apprenticeship training in Singapore comprises two components, namely, off-the-job and on-the-job training. Off-the-job training covers technical concepts and knowledge. This training component may be conducted at an ITE technical institute, an industry training centre or the company's premises. Under the on-the-job component, apprentices apply the knowledge and concepts learnt during the off-the-job training. Apprentices work under a supervisor who is trained to supervise actual learning performance at work.

Basic vocational training

ITE provides opportunities for a small group of early school leavers to receive basic vocational training in vocational training centres (VTCs) under a separate framework from ITE's mainstream post-secondary technical institutes.

The approved training centres

ITE accredits the systematic training effort of other providers through the approved training centres (ATC) scheme. This enables the ITE to enlarge the scope of technical skills training to serve the needs of industry better. As of June 1998 there are 82 ATCs in the ITE network.

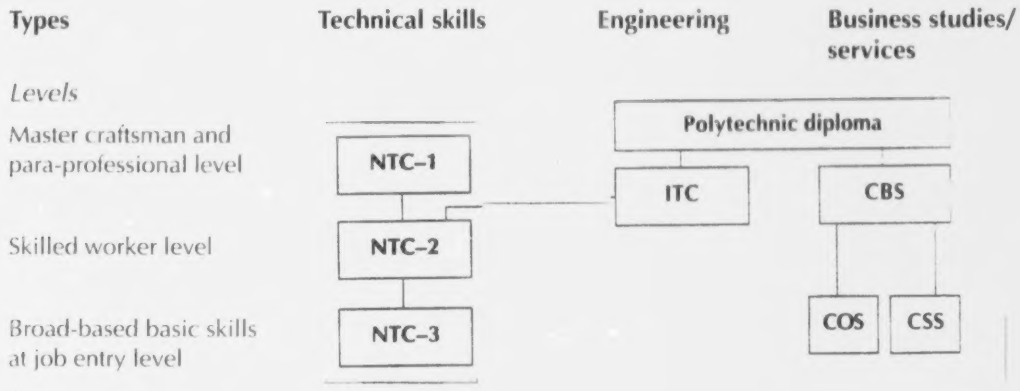
The VTET certification systems

Certification authorities

The four polytechnics provide certification leading to a diploma or advanced diploma. The diploma courses aim to train engineering technologists and business executives. The advanced diploma courses provide additional skills and knowledge training in a narrow specialisation expected of the diploma holder in their profession. The criteria for award of a diploma or advanced diploma is based on passing all stipulated modules for the course. Each polytechnic has its systematic way of curriculum development. For establishment of a new diploma certification, training needs are identified through industry survey. The course outline is then prepared by the department course management team. The view of the advisory committee which comprises representatives from industry is sought before presenting to the Board of Governors of the polytechnic and the Ministry of Education (Higher Education Branch) for approval.

ITE is the national authority for certifying technical, commercial and service skills for the segment of the workforce requiring below-polytechnic diploma qualifications. It regulates the national certification and standards of technical skills at technician level and below covering occupations in the manufacturing, engineering, commercial and services industries.

Figure 2: System of skills certification


Types
Technical skills
Engineering
Business studies/ services
Levels
Master craftsman and para-professional level
Skilled worker level
Broad-based basic skills at job entry level
Polytechnic diploma
NTC–1
NTC–2
NTC–3
ITC
CBS
COS
CSS

Assessors

The assessors are technically competent and trained for their roles. Generally they are trainers by profession.

Types and levels of qualification

The ITE awards the following types of nationally recognised qualifications of skills attainment :

- ❖ Technical skills
  - – *Industrial Technician Certificate (ITC)*: The ITC certifies engineering skills at the technician or junior supervisor level, e.g. electronic engineering

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  - *National Technical Certificate (NTC) Grades 1 to 3*: The NTC certifies technical skills, e.g. automotive technology and precision engineering
  - *Certificate of Competency (CoC)*: The CoC certifies technical skills which are narrow and specific in nature, e.g. electrical wiring and vehicle spray painting
- ❖ Commercial skills
  - *Certificate in Business Studies (CBS) and Certificate in Office Skills (COS)*: The CBS and COS certify office skills in business services, e.g. accounting, secretarial and office practice
- ❖ Service skills
  - *Certificate in Service Skills (CSS)*: The CSS certifies service occupations such as retail sales and travel services

The number of certification titles under each type of qualification as of January 1998 is indicated below :

Type of qualification	**Number of certification titles**
NTC	113
ITC	7
CBS/COS	4
CoC	33
CSS	7
Total	164

The NTC system is by far the largest in terms of occupations covered and the number of persons seeking training and certification. Under this system technical skills are classified into three levels as follows :

- ❖ NTC–1 which is the highest level of attainment of skills and knowledge in an occupation comparable to that of a master craftsman
- ❖ NTC–2 which is the skilled level comparable to that of a fully-trained and competent craftsman
- ❖ NTC-3 which is the basic skills level

Standard for skills certification

The award of certification is based on mastery of both skills and knowledge. The candidate is assessed through direct observation and written theory examinations based on a set of competencies as defined in the skills standard.

The smallest certifiable unit is the module. The module represents a subdivision of an occupation which by itself is employable. Generally in an NTC–3 or NTC–2 course, there are four modules of employable skills. The module certificates are recognised independently and credited towards the full NTC award.

Accreditation process for skills standards

The skills standard is established after a thorough process of occupational analysis called DACUM (developing a curriculum) involving the participation of experienced workers and supervisors. The occupational competencies identified are validated by the employers.

The skills standard is subsequently endorsed by respective training advisory committees comprising professionals from the industry and approved by the Technical Certification Committee which is tripartite in composition with representations from the government, employer organisations and the National Trade Union Congress.

The establishment of skills standards, test development and test administration function are centrally managed at the ITE headquarters level.

The VTET accreditation system

ITE itself is a major training provider. It offers a wide range of engineering, technical and business studies courses to school leavers and working adults. To ensure that ITE's training syllabuses meet the needs of industry, ITE has established the system to validate each course syllabus. The training advisory committees (TACs) are set up to examine and approve the syllabuses of courses for the respective industry or occupational cluster. The TACs meet regularly to discuss and review the syllabuses, provide feedback on changes in industry as well as provide specialist advice on technological trends. Each TAC is composed of employer representatives, professionals and specialists from respective industries.

Approved training centres

ITE accredits the systematic training effort of other training providers through the Approved Training Centre (ATC) scheme. Through this accreditation system, ITE is able to enlarge the scope of technical skills training to serve the industry better. There were 82 ATCs in the ITE network in 1998.

Accreditation process

When an application for ATC status is submitted, ITE will evaluate the application based on the criteria stated above. The evaluation process involves a site visit to validate facilities. Upon satisfying the accreditation criteria, an evaluation report is prepared and submitted to ITE management for approval. ITE will give advice to the applicant if the accreditation criteria is not met.

When an application for ATC status is approved, a certificate will be awarded to the organisation by ITE. The ATC status is granted for a 2-year period in the first instance.

Renewal is given for up to a 3-year period for each application based on the following criteria :

- there are adequate training resources and facilities for conducting training and testing to conform with the latest skills standards
- the organisation committee to continue with the training of on-going employees or has plans to recruit fresh trainees
- training performance has been satisfactory

Monitoring

ITE will continue its monitoring of the ATC once a training programme is started to ensure that ATC conducts the training according to the approved training programmes. The ATC will be updated on any changes in training curriculum and testing. Training records should be made available for inspection on request.

The ATC status could be revoked if the organisation is unable to meet the stipulated requirements or does not follow the programmes as approved.

Accreditation authorities

The ITE is the mandated authority to accredit the ATCs.

Criteria for accreditation

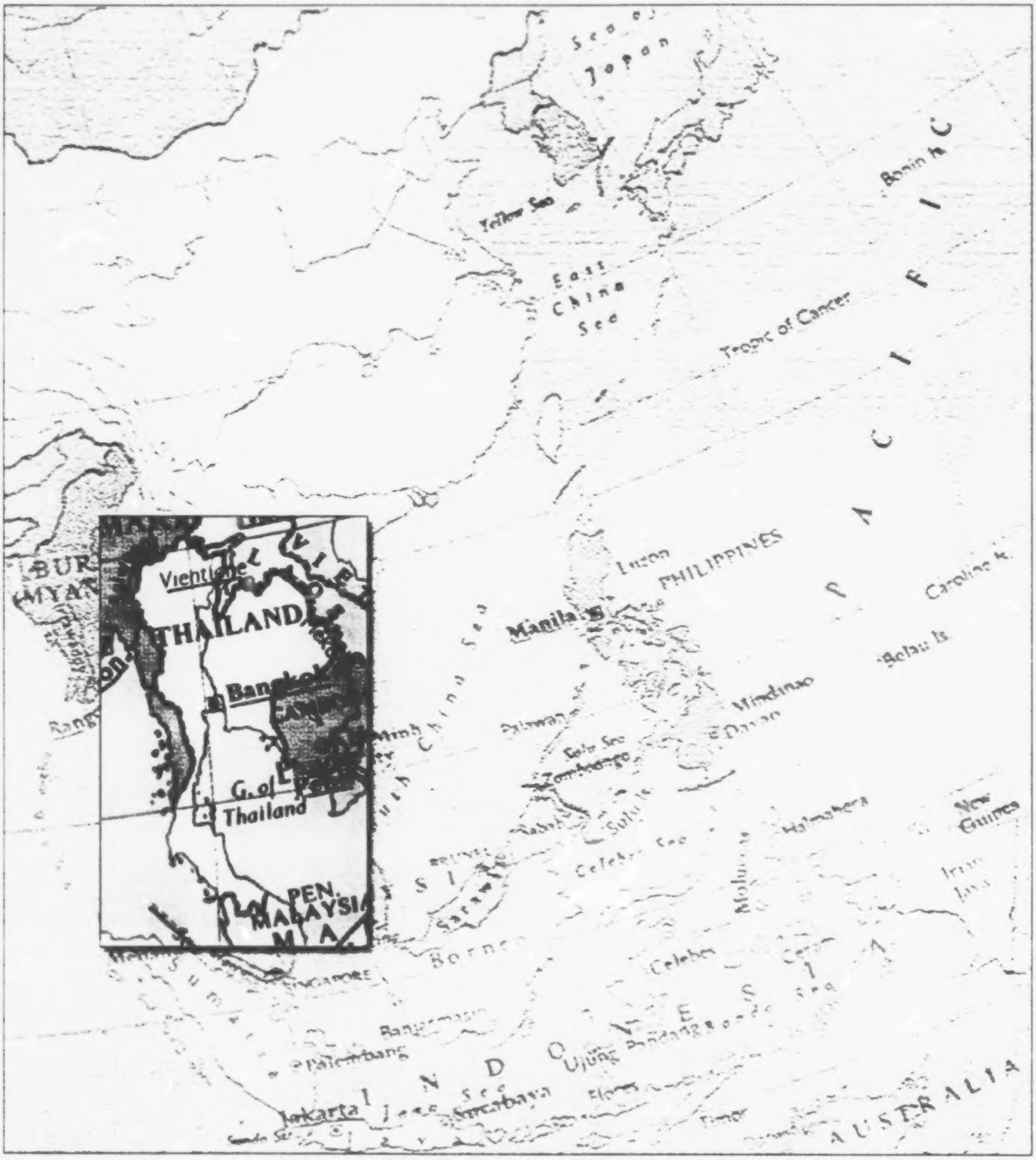
An organisation is eligible to apply for ATC status if it meets the following three basic conditions by having:

- a structured programme recognised by ITE as being able to train one to the skills standard required for national certification
- adequate training facilities to conduct training and testing in the specified course at the specified level. The facility-to-trainee ratio should conform to the requirements of ITE.
- adequate qualified training staff to conduct the specified training and testing. The staff-to-trainee ratio should meet the minimum requirements in each trade as specified by ITE.

Benefits

By becoming an ATC, an organisation will have the following advantages :

- It enables an organisation to train its workers to national certification standards in its own environment.
- An ATC will have access to materials developed by ITE for the training programme, if available, and access to the ITE Resource Library.
- An ATC could recruit apprentices through ITE's Apprenticeship Registration System if the training is under the apprenticeship mode of training.
- An ATC is eligible for Skills Development Funds (SDF) support. The SDF is administered by the Productivity and Standards Board (PSB).


Sea of Japan
Yellow Sea
East China Sea
Bonin Is.
Tropic of Cancer
PACIFIC
BURMA
MYANMAR
Vientiane
THAILAND
Bangkok
G. of Thailand
PEN. MALAYSIA
Luzon
PHILIPPINES
Manila
Caroline Is.
Belau Is.
Palawan
Mindanao
Davao
Sulu Sea
Zamboanga
Halmahera
New Guinea
Celebes Sea
BRUNEI
Sarawak
Moluccas
Borneo
Celebes
SINGAPORE
Banjarmasin
Palembang
Ujung Pandang
INDONESIA
Jakarta
Java Sea
Surabaya
Flores
Timor
AUSTRALIA

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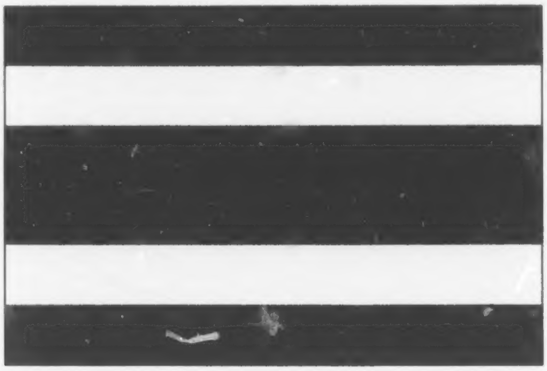
Kingdom of Thailand



Introduction

THAILAND OCCUPIES A TERRITORY of 513 115 square kilometres in South-east Asia. It is situated in the west of the Indo-Chinese Peninsula. It shares borders with the Lao Peoples' Democratic Republic and Cambodia to the east, with Myanmar to the west, China to the north and Malaysia to the South. It has 76 provinces and is subdivided into districts (jang-wat), villages (umphoe) and communities (mu-baan). Its form of government is a constitutional monarchy with a bicameral parliament which consists of a Senate whose members are appointed by the monarch on the recommendation of the Prime Minister, and a 360-member House of Representatives elected by adult suffrage. The Prime Minister is the head of government and the governmental authorities are concentrated in Bangkok, the country's capital.

Thailand has a society anchored with strong traditions, a deeply rooted culture and an ingrained sense of freedom. Its national religion is Buddhism, which is avowed by practically 95 per cent of the population. The remaining percentage of the population is distributed among Muslims (4%); Christians (0.5%); and Brahman, Hindu, Sikh and others (0.5%). The national and official language spoken is Thai. Chinese is spoken among the affluent and urban ethnic Chinese, Malay is spoken in the southernmost part of the country, while the minority tribes in the hillsides speak more than six dialects.

About 80 per cent of Thai people live in the rural areas. The literacy rate as of 1992 stood at 93 per cent. Of the population of about 60 million (as of 1995), 75 per cent are Thai, 14 per cent are Chinese, and 11 per cent belong to other groups including the minorities. Per capita income is US$1900 (48 501 Baht) (*Educational statistics* 1992). At 1991, the population rate of increase was about 1.4 per cent per year.

Thailand is basically an agrarian nation, with approximately 70 per cent of the workforce engaged in agriculture. The country experienced excellent rates of economic growth accompanied by diversification of the economy into various areas like textiles, jewellery, art and craft products and tourism. The country's economic condition continues to move forward dynamically in financial, trade and investment terms, which opens Thailand's economy to the international system. Due to the rapid economic growth of Thailand, the need for qualified workers has become more and more pronounced. Educational development became the main functionary to develop manpower resources for the economy and society. However, the imbalance of basic service, quality of life, manpower demand and supply, natural resource and environmental degradation and other problems still remain.

Thailand has remained a fundamentally capitalist, open economy for much of the second half of the twentieth century. High rates of economic growth had been sustained over a period of three decades, heralding dramatic decline in the agricultural share in the GDP, rapid manufacturing export growth bolstered by high rates of FDI and increasingly diversified banking, financial and service sectors (*Final report* TA No. 5681-REG, ADB).

In the same report mentioned above, Thailand has been observed to show a sharp decline of employment in agriculture that marked a historic turning point in the labour market in the 1990s. Non-agricultural-sector employment growth was rapid from the late 1980s, particularly in manufacturing and construction. A tightening labour market was also the result of a marked slowdown in labour supply growth and shortages of skilled manpower.

Thailand's economic growth has been largely based on its abundant supply of productive, low-cost labour. However, there are now strong indications that the economy is in the process of significant structural changes linked to increased labour productivity. The contribution of exports to GDP growth reached 53 per cent in 1994 led by increasingly diversified manufactured products. The economy is currently in transition between labour-intensive production, which is in long-term decline, and higher value-added industries.

Between 1986 and 1993 wages rose about 11.5 per cent per year. In the early 1980s, the reported unemployment figure was low, but underemployment was quite significant. This constrained domestic savings and investment, including investments in human capital. Labour productivity growth lowered from 6.3 per cent from 1966 to 1990 to 2.3 per cent from 1991 to 1993. (*Final report* TA no. 5681-REG, ADB)

In 1966, about 78 per cent of the workers had primary education background or less, and is expected to have about 70 per cent of workers only having maximum elementary school education background or no direct skills training in the year 2000.

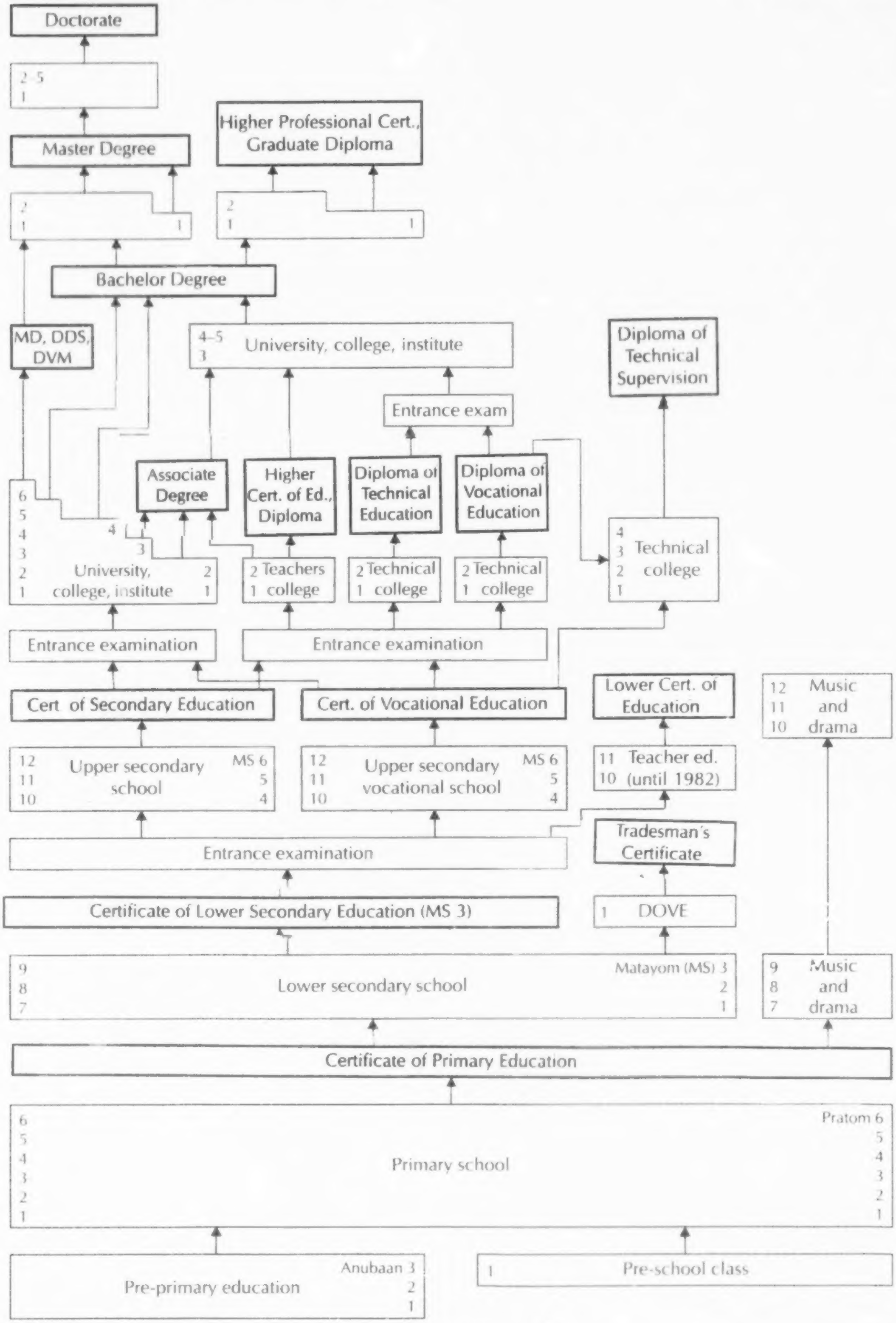
Since 1972 all education levels progressed to bring about social betterment and to promote economic and social life and also emphasised preparation of the population to move the country onwards to the modern age of science and technology in rate of amount and quality of education among employed persons in the workforce.

Overview of the education and training system

School education

For a period of more than fifteen years (1961–1977), school education followed the 4–3–3 pattern and two years for the general academic stream leading to the Higher Secondary School Certificate. Students in the upper secondary vocational stream had to complete another year of additional study leading to the Higher Secondary Vocational School Certificate. Basic education is compulsory up to grade 6.

Figure 1: Outline of the educational system


Doctorate
2-5
1
Master Degree
Higher Professional Cert., Graduate Diploma
2
1
1
2
1
1
Bachelor Degree
MD, DDS, DVM
4-5
3
University, college, institute
Diploma of Technical Supervision
Entrance exam
Associate Degree
Higher Cert. of Ed., Diploma
Diploma of Technical Education
Diploma of Vocational Education
6
5
4
3
2
1
4
3
University, college, institute
2
1
2 Teachers
1 college
2 Technical
1 college
2 Technical
1 college
4
3 Technical
2 college
1
Entrance examination
Entrance examination
Cert. of Secondary Education
Cert. of Vocational Education
Lower Cert. of Education
12 Music
11 and
10 drama
12
11
10
Upper secondary school
MS 6
5
4
12
11
10
Upper secondary vocational school
MS 6
5
4
11 Teacher ed.
10 (until 1982)
Entrance examination
Tradesman's Certificate
Certificate of Lower Secondary Education (MS 3)
1 DOVE
9
8
7
Lower secondary school
Matayom (MS) 3
2
1
9 Music
8 and
7 drama
Certificate of Primary Education
6
5
4
3
2
1
Primary school
Pratom 6
5
4
3
2
1
Anubaan 3
Pre-primary education
2
1
1 Pre-school class

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Before 1976, examinations for the Higher Secondary School Certificate and the Higher Secondary Vocational School Certificate were administered on a national basis. In 1976 these national examinations were replaced by locally administered examinations (*Country education profiles*, NOOSR 1996).

After 1977, the National Education Scheme was amended and was implemented in 1978 as shown in figure 1. The current structure of the educational system of Thailand is 6–3–3, with six years of compulsory primary education, three years of lower secondary and another three years of upper secondary education. The figure also shows the entry and exit behaviours of students with the corresponding certificate or diploma awarded per level and the relationship between levels of general and vocational education.

Thai students normally sit for four or five entrance examinations during their school education. From the end of Grade 6 through the six years of secondary school to university entrance, advancement is narrowly focussed on examination performance. Because of high competition in examinations as a means to admission to a higher level in the education ladder, many students get discouraged from pursuing education beyond primary school.

About 47 per cent of students drop out of school after elementary education. The dropouts either start working as unskilled workers or work for their parents. Only 53 per cent continue studies in the secondary level , 37 per cent of whom study for a bachelor's degree at a technical or vocational institute.

However, non-formal education is available for those who have not completed formal primary education. The Department of Non-formal Education (DNFE) offers both general and vocational programmes for adults. General programmes are offered at the lower and upper secondary level by means of day and evening classes, distance learning (by correspondence and radio) and self-study for external examinations. Vocational educational services include courses at the lower secondary level and short-term courses, and a Certificate of Vocational Education is awarded to students who complete a vocationally oriented upper secondary programme through the non-formal education system.

Vocational and technical education

Vocational and technical education (VTE) is a major component of Thailand's education system. It is delivered through both public and private vocational schools, and provides almost as many places for lower secondary graduates as do the public and private general secondary schools. The VTE system in Thailand starts at upper secondary level. A three-year programme or vocational certificate curriculum is provided for those who complete lower secondary schooling. A two-year or technical diploma curriculum is provided for those who complete the vocational education certificate or upper secondary education in the general stream. Another two-year programme of higher diploma in technical education or a bachelor of technology curriculum is also provided. Short-course vocational training is also provided for those who are out of the school system.

The VTET sector includes vocational upper secondary school and post-secondary vocational education. VTE at the upper secondary level is intended to prepare students for either employment at skilled worker level or for further studies. At the post-secondary level, specialised institutes, colleges and universities offer advanced vocational training at the technician level. Non-formal vocational education provides short training programmes in specific skills for those who need to upgrade their qualifications (*Country education profiles*, NOOSR 1996).

The structure of the VTE system is relatively complex, comprising both public and private institutions. It is administered by several ministries, some of which offer both formal and non-formal training.

Vocational and technical education is conducted at three levels: secondary, leading to a three-year certificate equivalent to graduates of general secondary schools; post-secondary (generally for two years), leading to a diploma; and university level, leading to a degree. Secondary (certificate) and post-secondary (diploma) vocational education is provided in technical, commercial and agricultural fields by the King Monkut's Institute of Technology (KMIT) under the Ministry of University Affairs (MUA), and by the Rajamangala Institute of Technology (RIT) and the Department of Vocational Education (DOVE) under the Ministry of Education (MOE) (figure 1).

DOVE is the largest public provider of VTE, with 162 vocational and technical schools/colleges within its jurisdiction. It administers secondary (certificate) and post-secondary (diploma) level programmes in three levels (technical, commercial and agricultural) within technical and vocational training colleges. Most formal institutions, public and private, offer programmes of more than one level. One example is RIT offering programmes at the certificate, diploma and degree levels.

The Ministry of Education plays a major role in this effort. Within the MOE, the Department of Vocational Education or DOVE, administers VTE. It is responsible for trade and skills training at both secondary and post-secondary levels and in the administration of colleges of agriculture and for vocational teacher training. Other departments of MOE which are involved include the Institute of Technical and Vocational Education, which supervises the programmes offered by the 31 campuses of the Rajamangala Institute of Technology (RIT), the Office of Private Education Commission, which oversees private secondary vocational schools and the Department of Non-formal Education. Also involved in VTE are the Ministry of Defence, the Ministry of Public Health, and the Ministry of Transportation, which operate their own institutions to train specialised staff for their organisations.

There are also privately run vocational schools and colleges that offer programmes at both secondary and post-secondary level in the fields of agriculture, commerce, and a wide spectrum of industrial specialisations. These institutions normally follow the curricula set down by either the DOVE or RIT and enrol about 45 per cent of the students in this sector.

Moreover, DOVE-operated vocational schools and colleges offer a one-year programme leading to the Tradesman's Certificate. This was conceived to prepare students who have completed lower secondary school totalling to nine years of school education for immediate employment.

The primary school leavers, specially those in the rural areas, gain employment in some agri-based businesses and other workplaces as non-skilled laborers. This is where non-formal technical and vocational training play a significant role in providing opportunities for such school leavers to acquire technical and vocational skills outside of the formal school set-up. This type of training is made available in area vocational centres and polytechnic schools in every part of the country. The five main areas available as short-term courses (100 to 225 hours) are trade and industry; home economics and arts and crafts; agriculture; plant science and horticulture; business and general arts and crafts. Non-formal training is offered by the MOE through DOVE's 54 polytechnics and 149 industrial and community colleges (ICCs) and by the Department of Non-formal Education (DNFE) through its 6500 institutional/training groups. It is also offered by the Ministry of Interior, Ministry of Industry, Ministry of Agriculture and Co-operatives, and the Ministry of Labor and Social Welfare through the Department of Skill Development's (DSD) ten regional institutes and nine provincial skill training centres.

The overall training activities of these institutions follow the same guidelines and have similar objectives:

- *Pre-employment training* for unemployed out-of-school youth with at least four years of primary schooling. The courses offered are short-term skill training courses that range from 30 to 225 hours. Modular units are used to:
  - allow trainees who have to or wish to drop out upon completion of each employable unit
  - accept an increased number of trainees so that the available equipment and facilities are fully utilised
- *Upgrading training* for skilled workers who need training to cope with technological change and to have increased mobility in the labour market. These courses have an average duration of 60 hours and some have been designed to be theoretically based to provide background knowledge to workers who have obtained skills through practice and experience.
- *Non-technical training* courses are offered by internal and experienced external instructors in areas like entrepreneurship and for such occupations as secretary, receptionist and salesperson.

In general, the non-formal programme has been designed to be flexible, and new courses are offered as new occupational needs develop. Formal technical and vocational institutions also offer various short-term courses.

Post-secondary level technical and vocational education is offered by three groups of institutions: DOVE technical colleges, RIT campuses and private technical colleges and the King Mongkut's Institute of Technology (KMIT). About 350 private technical or vocational schools and colleges exist in the country.

The various curricula for VTET at all levels are revised and reformed to be more flexible to meet changing needs of industrial sector and the advancing modern technology. However, it has to be recognised as well that VTET is still a pre-service education and training system. It is not meant to readily serve the manpower needs of any particular industry. As has been mentioned previously, VTET since 1992 still have three standards: DOVE curricula; RIT curricula; and the KMIT curricula. Each organisation has developed their curricula separately.

Skills maps and skills standards

At present, Thailand's skills standards, testing and certification systems do not function well. The system in Thailand is limited in scope and is not sufficiently flexible to cope with the requirements of a fast-changing economy and the increasing use of higher levels of technology. The present system is outdated and unresponsive to current needs (*Final report* TA no. 5681-REG, ADB). However, Thailand has made significant investments in the development of skills standards, testing and certification systems (SSTC), but efforts are constrained by the availability of adequate funds. Nevertheless, the situation is expected to improve through the implementation of an ADB-supported Skills Development Project, which includes assistance for upgrading the existing SSTC system.

In Thailand, skills competitions are undertaken as effective means of promoting the value of skills training. Skills competitions held nationally help raise public awareness as well as public recognition. National and individual pride are promoted through publicly acknowledged achievements in skills competitions.

In Thailand, the Ministry of Labour and Social Welfare (MOLSW), through the Department of Skill Development (DSD), has the responsibility for the development and implementation of the SSTC system. As in most countries, the MOE is the main provider of secondary school vocational education and training through DOVE. In 1996, 59 trades/occupations had been identified and skills standards prepared for 32 of them. In the present system, training is not linked to skills certificates and, therefore, candidates are poorly prepared for examinations. This has resulted in low pass rates, averaging around 60 per cent in 1994.

Occupational skills standards in Thailand have been in operation for many years based on the ILO APSDEP Model Occupations Skills Standards. More recently, under the Vocational Training Promotion Act BE 2537 (AD 1994) the Committee on Vocational Training Promotion has been established to determine the policy and conditions for issuing skills standards, for skills testing and certification and for organising skills competitions. National skills/occupations are classified into three levels:

- Level III—semi skilled
- Level II—skilled
- Level I—fully skilled (technician)

The national skills standards serve as guidelines for private firms in personnel recruitment and establishing pay scales. In the government, the national skills standards are considered as an effective framework for curriculum design, training programmes and occupational guidance.

Graduates from the secondary schools can undergo skills testing by the DSD. The DSD works as a national institute for skills development with 11 regional institutes for skills development; 14 provincial centres for skills development; and 26 provincial pre-employment training centres. It provides pre-employment skills training and skills upgrading to the existing workforce and specialised courses on demand by industry.

The Committee on Skills Standards and Testing organised under the Committee on Vocational Training Promotion, takes charge of issuing skills standards of each trade. The committee is composed of qualified specialists in technical fields from the government, the private sector, educational institutions and other organisations concerned.

Major organisations involved in VTE and their roles

Ministry of Education (MOE)

The Ministry of Education has overall responsibility for primary education, secondary education, vocational and technical education and teacher training.

Department of Vocational Education (DOVE)

Technical and vocational education is primarily administered by the Department of Vocational Education, which is part of the Ministry of Education, and is responsible for trade and skills training at both secondary and post-secondary levels, the administration of colleges of agriculture and for vocational teacher training.

Institute of Technical and Vocational Education

The Institute of Technical and Vocational Education supervises the programmes offered by 31 campuses of the RIT.

Office of the Private Education Commission

The Office of the Private Education Commission oversees private secondary vocational schools

Department of Non-formal Education (DNFE)

Department of Non-formal Education is responsible for managing VTET short courses to serve the community needs in the rural areas.

Ministry of University Affairs (MUA)

The MUA takes responsibility in public and private universities and institutions of higher education.

Ministry of Labour

Ministry of Labour supervises training for upgrading and updating skills of the labour force through a large number of short-term training courses. The national skills testing, standardisation and certification for those who are not in formal schooling are developed and implemented by this ministry.

Ministry of Interior (MOI)

The Ministry of Interior provides primary education through municipal authorities and a number of short -term training courses in the rural areas by the local authorities.

National Board of Vocational Training Co-ordination (NBVTC)

National Board of Vocational Training Co-ordination, chaired by the Prime Minister, is one of the organisations set up by the government to provide training. Its major functions are the formulation of the national policy and plans for skills development, and the provision of guidelines for co-ordination among vocational training providers.

Rajamangala Institute of Technology (RIT)

The Rajamangala Institute of Technology represents an amalgamation of 32 regional and vocational colleges across Thailand. It was established in 1975 as the Institute of Technology and Vocational Education. Prospective teachers of technical and vocational education undertake a four-year programme at RIT which offers programmes leading to the Bachelor of Education in six faculties. There are also two-year programmes available to those who hold a two-year post-secondary technical/vocational award such as the Diploma of Vocational Education, leading to the Higher Diploma in Technical Education.

King Mongkut's Institute of Technology (KMIT)

KMIT is a higher education institution which is supervised by the MUA. Its North Bangkok campus offers the same type of programmes as DOVE and RIT institutions, in the area of industrial technology (auto mechanics, electrical mechanics, mechanical drafting, and refrigeration and air conditioning mechanics). The institution also provides VTET teacher education and degree courses for the diploma graduates.

Other agencies and organisations

Other technical, vocational and professional training may be found in specialised programmes offered by several government departments and ministries such as the Ministries of Defence, Public Health, and Transportation. These ministries set up their own schools, academies or colleges to train specialised personnel for their own organisations and agencies. The programmes offered are tailored to meet specific needs and may last from one to five years, depending on the requirements of the organisation.

There is strong involvement of the private sector in the type of skills being taught by the vocational training systems in Thailand.

The VTE certification system

Since occupational skills standards in Thailand have been in operation for many years based on the ILO APSDEP Model Occupations Skills Standards, necessarily, the certification system is based on the same model.

The Ministry of Labour and Social Welfare (MOLSW), through the Department of Skills Development (DSD) has the sole responsibility for the development and implementation of the certification system of Thailand. Just like the other countries in the region, the Ministry of Education is the major provider of secondary school level vocational education and training through DOVE. In an ADB report (1997), 59 trades/occupations would have been identified and skills standards prepared for 32 of such trades. Moreover, it is reported that the current SSTC system of the country is outdated. Training has been found not to be linked to skill certificates, which could probably explain low passing rates in examinations, averaging around 60 per cent in 1994. Currently, the DSD is in the process of reforming the system.

The current practice in certification starts with the graduates from secondary schools undergoing skills testing at the DSD which operates a national institute for skills development. Then, a certification is given to the graduates as to the level of occupational skills applied for depending upon one's performance in the skills test. In addition, DSD provides pre-employment skills training and skills upgrading to the existing workforce and specialised courses on demand by industry.

As has been discussed earlier, there are three occupational levels upon which certification is issued: Level III for semi-skilled; Level II for skilled; and Level I for fully skilled.

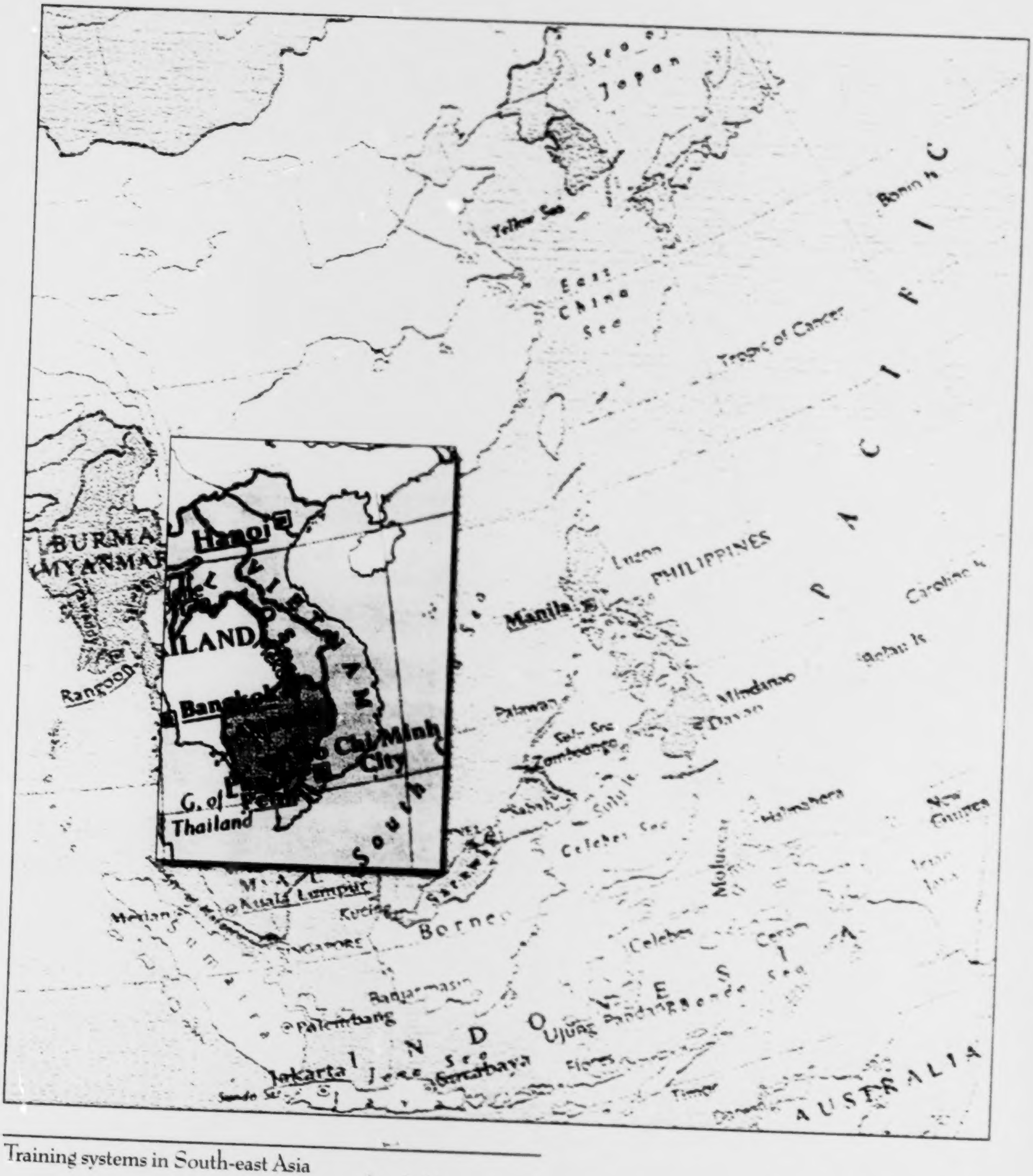
The VTE accreditation system

Public VTET in Thailand is provided through formal and non-formal institutional arrangements under the MOE and the MOLSW. Other ministries train civil servants to meet their own personnel requirements. Under the Ministry of Education, DOVE is responsible for administering formal secondary-level and post-secondary level vocational and technical education. Under the umbrella of the DOVE are 98 technical institutes (upper secondary and post-secondary), 48 agricultural technical institutes and 44 vocational colleges (upper secondary). 190 industrial community colleges also exist in rural areas. Non-formal courses of varying duration are currently offered in technical institutes and vocational colleges with the aim of supplementing the programmes offered by the Department of Non-formal Education.

DSD, under the MOLSW, conducts job training for out-of-school youth and young adults at the National Institute for Skills Development (NISD), 11 regional institutes for skills development and 14 provincial centres for skills development.

Since 1982 DOVE has operated an evaluation system to improve the quality of technical institutes and vocational colleges. It evaluates its technical and vocational education institutes every year according to its own criteria to select the best school of the year by trade. Each of the five regions in Thailand would choose a school of excellence from among which the school of excellence for the year is chosen for the whole country. The benefit of the selected schools of excellence is the awarding of government funding to improve the quality of education.

The DSD has recently adapted a similar evaluation system to encourage higher standards in the schools and institutes within its jurisdiction, although institutional arrangements for the system have not been fully developed. An evaluation committee has been established to set the criteria and evaluation teams have been formed to select the centre or institute of excellence from each of the regions. The award given to the winning centre consists of financial support and staff promotions. It is noted that the DSD has its own criteria for evaluation and accreditation apart from that of DOVE.


Sea of Japan
Yellow Sea
East China Sea
Tropic of Cancer
Bonin Is
PACIFIC
BURMA
MYANMAR
Hanoi
LAOS
VIETNAM
THAILAND
Bangkok
Ho Chi Minh City
G. of Thailand
South China Sea
Rangoon
Luzon
PHILIPPINES
Manila
Caroline Is
Palau Is
Palawan
Mindanao
Davao
Sulu Sea
Zamboanga
Sabah
Sulu Is
Celebes Sea
Halmahera
New Guinea
Sarawak
Kuala Lumpur
Medan
Kuching
Singapore
Borneo
Sumatra
Celebes
Moluccas
Ceram
Banjarmasin
Palembang
INDONESIA
Ujung Pandang
Banda Sea
Jakarta
Java Sea
Surabaya
Flores
Timor
Sunda Str.
AUSTRALIA

Training systems in South-east Asia

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The Socialist Republic of Viet Nam

Introduction

The Socialist Republic of Viet Nam occupies a long strip of land of 331 700 square kilometres, extending along the eastern coast of the Indo-Chinese Peninsula from latitude 8°34'N to 23°22'N. The country has an eastern coastline of 3450 kilometres, which abuts the Gulf of Tonkin to the north, and the South China Sea and the Gulf of Thailand in the south. It also shares a total of 3818 kilometres of land borders with China (north 1281 km), Lao PDR (west 1555 km) and Cambodia (south 982 km).

Viet Nam has an estimated population of 76 million with an annual growth rate of 2.2 per cent. About 80 per cent of the population lives in rural areas. Young people predominate, with half of the population being under 20 years of age. Average life expectancy in Viet Nam is 65.2 years.

The population of 76 million includes about 54 ethnic groups of which the Kinh (Viet) is the largest making about 85 per cent of the population. The country has seven main regions: North Mountain and Midland, Red River Delta, North Central Coast, South Central Coast, Central Highlands, South East and Mekong River Delta. Administratively, the country is divided into 61 provinces including the three autonomous cities of Hanoi, Haiphong, and Ho Chi Minh City and the special area of VungTau-Con Dao, all of which have the status of provinces.

Per capita income was $360 in 1997 and income in constant values has increased by 1.5 times in the past five years. At present, about 20 per cent of the population lives under the poverty line, defined as having insufficient income to buy 20 kg of rice per person per month (MPI and JICA, 1966). However, its human development index (HDI) of 0.54 is well above that of other countries in the group and compares well with those of middle income countries.

Viet Nam is well endowed with natural resources, including coal, phosphates, manganese, bauxite, chromate, zinc, timber, fish, and salt. Its major industries include cement, fertilisers, sugar, paper products, iron and steel, rubber, textiles, beer, leather footwear and foodstuffs. It has one of the richest agricultural areas in Southeast Asia, with the major rice-growing areas of the Red River Delta and the Mekong Delta. Its major agricultural products include rice, sugar cane, fruits, vegetables, cassava, sweet potatoes, coconuts, corn, peanuts, potatoes, rubber, coffee, pigs, cattle, sheep, goats, and chickens. It has vast forests and reserves of coal, petroleum, natural gas and hydroelectric potential.

The economy

The reunification of Viet Nam integrated the two disparate economic systems of the north and the south under a single command economy. A social and economic reform programme was adopted, though, by the Sixth Party Congress in 1986 called 'doi moi'. This reform programme reduced the role of centralised economic management and gradually introduced market mechanisms. Continued reform was approved by the Seventh Party Congress in 1991 thus Viet Nam in the 1990s is in a state of transition from a command economy to a market economy. An important feature of this state is its opening of international trade links with world markets.

Real gross domestic product (GDP) grew at an annual rate of 8.2 per cent during the period 1991 and 1995 (GSO, *Statistical yearbook 1995*). The fastest growing sector was industry which grew at 12.8 per cent. The second fastest growing sector was the service sector which grew by 9.1 per cent. Within the service sector, the finance, banking and insurance sub-sector grew by an impressive 18.3 per cent during the same period. The slowest growing sector was the agriculture sector with an average annual growth rate of only 4.3 per cent.

The agricultural sector accounted for 27.2 per cent of GDP in 1996, having decreased from 40.5 per cent in 1991. This represents a decline of about 13.3 percentage points in agriculture's contribution to GDP from 1991. The share of industry rose to 30.7 per cent from 23.8 per cent during the period of 1991–96. The share of services has risen from 35.7 per cent to 42.1 per cent during the same period (GSO, *Statistical yearbook* 1995).

The labour force

According to extrapolated estimates from the Survey on Labour-Employment 1996 (SLE), the total labour force (age 16 to 60 for males and 16 to 55 for females) was about 36 million people. The majority of people in the labour force was rural (approximately 76%) and women (50.6%).

Agriculture absorbs the largest proportion of the labour force. The SLE report indicates that 69.3 per cent of the labour force was in agriculture, supporting the claim that Viet Nam is basically an agrarian society. In rural areas, agriculture and its related sub-sectors accounted for 81.7 per cent of total employment. The share of the industrial sector was still small and amounted to just under 11 per cent of total employment in the country, with 26.9 per cent in urban areas and 6.8 per cent in rural areas. The service sector contributed 19.6 per cent of total employment in the country, 55.4 per cent in urban areas and 11.5 per cent in rural areas.

Whereas the labour force in agriculture and service accounted for 69.8 per cent and 19.6 per cent, respectively, in 1996, their proportions in the GDP were 27.5 per cent and 42.5 per cent.

Only 17 per cent of the labour force was engaged in wage employment. In rural areas this level dropped to 11.5 per cent. Approximately 37 per cent of the labour force was self-employed in enterprises without any other employees and 45 per cent was engaged in family businesses, including farms.

With the adoption of economic reform, wage employment in the public sector declined while jobs in the private sector had increased rapidly. Wage employment in the state sector accounted for only 8.4 per cent, while wage earners in the private sector accounted for 8.6 per cent of total employment in the economy. About 52.7 per cent of wage earners were employed in the mixed sector, including joint ventures (GSO, *Statistical yearbook* 1995).

Thirteen and one-half (13.5) per cent of the labour force completed upper secondary school, 32.1 per cent completed lower secondary school, and 26.7 per cent did not complete primary school. The illiteracy rate of the labour force is estimated to be about 5.8 per cent. The average educational level of females in the labour force is lower than the national average level. There is a significant disparity in educational level between urban and rural members of the labour force (SLE).

By skill level, the SLE report indicated that about 87.7 per cent of the labour force was unskilled (untrained), 10 per cent of the labour force had vocational and technical training, 2.3 per cent had university education. Skill level of females was lower than the national average level. There was a big gap in skill levels between urban and rural areas. The proportion of the labour force with vocational and technical training in urban areas was 23.2 per cent which was 3.4 times higher than that of rural areas.

Unemployment and underemployment

Unemployment and underemployment are considered by government to be major issues. The unemployment rate in 1995 was estimated to be about 5.3 per cent (GSO, *Statistical yearbook* 1995). Other sources report that the urban unemployment rate is about 10–12 per cent. This ratio would be much higher if people with seasonal employment were taken into account. Youth unemployment is highest (18.2%) among the 15–19 year age group. Data from the SLE report indicate that underemployment rates averaged about 24 per cent for the country and 36 per cent for the 15–24 age group.

Many school leavers have difficulty finding employment in urban areas because they lack adequate education and training, and employers have difficulties recruiting suitable workers in certain fields. Thus, there is a mismatch between the qualifications of job seekers and the skill requirements of employers.

In the transition process, the major visible impact of reforms is the reduction of civil servants and displacement of workers from state-owned enterprises. About one million workers have been displaced from state-owned enterprises. Following the cessation of war, about 500 000 soldiers were demobilised and since then, a further 150 000 military personnel have been returned to civilian life.

Returnees from other countries have contributed to unemployment and underemployment in Viet Nam. Following economic deterioration in the Soviet Union and Eastern and Central Europe, about 200 000 Viet Namese workers have returned home. In addition, about 65 000 'boat people' have been repatriated to Viet Nam. There are still a number of refugees who may return from other countries.

Women in the labour market

It is crucial to consider gender dimensions of employment in Viet Nam because more than half the population is female (51.3 %) and about 27 per cent of all households were headed by women (SPC and GSO, Viet Nam living standards survey 1992–93). In 1995, women workers aged between 16 and 55 years accounted for some 50.6 per cent of the total labour force. Women comprised about two-thirds of the labour force in agriculture and forestry, light industry and handicrafts, domestic trade, and national education and public health sectors. However, in construction, engineering and transport and communications, the proportion of females in the labour force is lower, between a quarter and third.

In employment, women are concentrated in the lower rungs of the occupational scale and in non-decision-making positions. Informed estimates suggest that women perform as much as two-thirds of the very heavy physical work in agriculture, construction and transport.

With the liberalisation of the free market and encouragement of small producers, women have entered the informal sector in much greater numbers. Available estimates indicate that of the 1.4 million in the informal sector in 1990, about two-thirds were women (ILO, *Employment, enterprise development and training in Viet Nam* 1993). Women in the informal sector are engaged mainly in trading, handicrafts, restaurant services, hairdressing, cloth cleaning or other petty jobs.

At the same time, women account for a disproportionate share of the estimated jobless. Job search is more difficult for women than for men. Of the graduates of secondary technical and vocational schools every year, young women have the most difficulties in finding jobs.

Women are also handicapped in terms of lower educational and vocational skill qualifications. Based upon the SLE report, of the total female labour force, about 7.1 per cent was illiterate, compared with 4.4 per cent illiteracy among men. Almost 4.4 per cent of women did not complete primary school: the corresponding figure for males was 22.9 per cent. Women are under-represented in VTET programmes such as technology and industry, and agriculture, forestry and fisheries. The proportions of the female labour force with vocational and technical training and university education are 7.8 per cent and 1.9 per cent, respectively: the corresponding figures for males are 12.3 per cent and 2.7 per cent. Enrolment patterns reflect traditional male and female domains. Men register in technical areas; women enrol in industrial sewing and secretarial studies.

Labour market demand

According to a forecast made by the Department of General Affairs of the Ministry of Planning and Investment in 1996, the overall labour force demand for 1998, 1999 and 2000 would be 42.6 million, 43.6 million and 44.5 million respectively.

The labour force demand study for the Technical Education Project of the Ministry of Education and Training (February 1998) forecasted the labour force and its division in terms of different economic sectors. The study takes into account two scenarios:

- Scenario 1, which assumes pessimistic growth rates of GDP
- Scenario 2, which assumes optimistic growth rates of GDP and assumes that the growth rate of productivity during 1996–2003 would be similar to that of 1991–1995

The labour force demands for 1998–2003 based on this study are presented below.

Table 1: **Total labour force for different economic sectors (scenario 1)**

	1998	1999	2000	2001	2002	2003
			(unit thousand persons)			
Agriculture, forestry and aquaculture	24 580	24 741	24 902	24 602	24 305	24 012
Industry	3 484	3 967	4 094	4 412	4 755	5 128
Services	7 756	8 501	9 317	9 865	10 445	11 060
Total	37 850	39 003	40 192	41 417	42 680	43 980

The predicted total labour force under scenario 1 and its sectoral breakdown for 1998–2003 are given in table 1. The details corresponding to scenario 2 are presented in table 2.

Table 2: **Total labour force for different economic sectors (scenario 2)**

	1998	1999	2000	2001	2002	2003
			(unit thousand persons)			
Agriculture, forestry and aquaculture	24 935	25 218	25 504	25 317	25 131	24 946
Industry	3 946	4 108	4 276	4 649	5 055	5 496
Services	7 966	8 808	9 740	10 405	11 116	11 875
Total	38 901	40 454	42 070	43 750	45 497	47 315

It can be observed that under scenario 1 (pessimistic conditions) the total anticipated labour force for the year 2000 is around 40.19 million whereas under scenario 2 (optimistic conditions) the figure would be 42.07 million. By taking both scenarios into account the average figure for the year 2000 is about 41.13 million.

The figures reveal that the agriculture sector, which now constitutes about 70 per cent of the total labour force, would be reduced to about 62 per cent by the year 2000 and 54.6 per cent by 2003. This implies that the non-agricultural labour force will increase from about 35.1 per cent in 1998 to 45.4 per cent by 2003. There will be a significant shift of economic perspectives from rural-based agriculture to more productive technology-based sectors.

The demand for skilled personnel will increase from about 17.5 per cent of the total labour force in 1998 to about 22.7 per cent by year 2003. The actual number of skilled workers in the labour force would grow from 6.63 million to 9.98 million from 1998 to 2003. This substantial shift of labour force demand

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from agriculture to more technology and skills-oriented non-agriculture sectors shows a growing demand for skilled workers and the importance of VTET.

The survey revealed that in qualitative terms among the technicians and senior technicians the highest demand is for those who are honest, trustworthy, result-oriented, well disciplined and highly specialised. On the other hand, it appears that the highest demand among skilled workers is for those who follow technical procedures, are honest and trustworthy and work accurately.

Overview of the education and training system

The formal education system in Viet Nam as shown in figure 1 is organised in five major stages:

1 pre-school education is at most for three years up to the age of six years old

2 primary education cycle of Grade I to Grade V starting at the age of six

3 lower secondary cycle for four years covering Grade VI to Grade IX

4 upper secondary cycle of Grade X to Grade XII in one of three streams:
   - streaming secondary (3 years)
   - secondary vocational education (3years)
   - secondary technical education (2 to 3 years)

5 higher education of college or university education

Overview of the VTET system

The present VTET system forms an important part of the lower secondary cycle and upper secondary cycle of the formal education system although a significant part of it is also in the area of skills training for adults outside the formal system. The VTET system is characterised by many training providers at central and local levels of government, since the system was developed in the past as a supply-driven one to serve a variety of state ministries and enterprises. The personnel and training divisions of the line ministries are responsible for organisation and management of VTET programmes to meet the specific needs of their sectors. In addition, companies located under many line ministries also administer VTET institutes. At the provincial level, provincial education and training boards (PETs) are responsible for the provision of all educational services including VTET. There are also VTET institutes at the district level managed by the district people's committees together with institutes operated by trusts, associations and unions. The overall structure of the VTET institutional system can be visualised from figure 2.

Figure 1: The national education system of Viet Nam

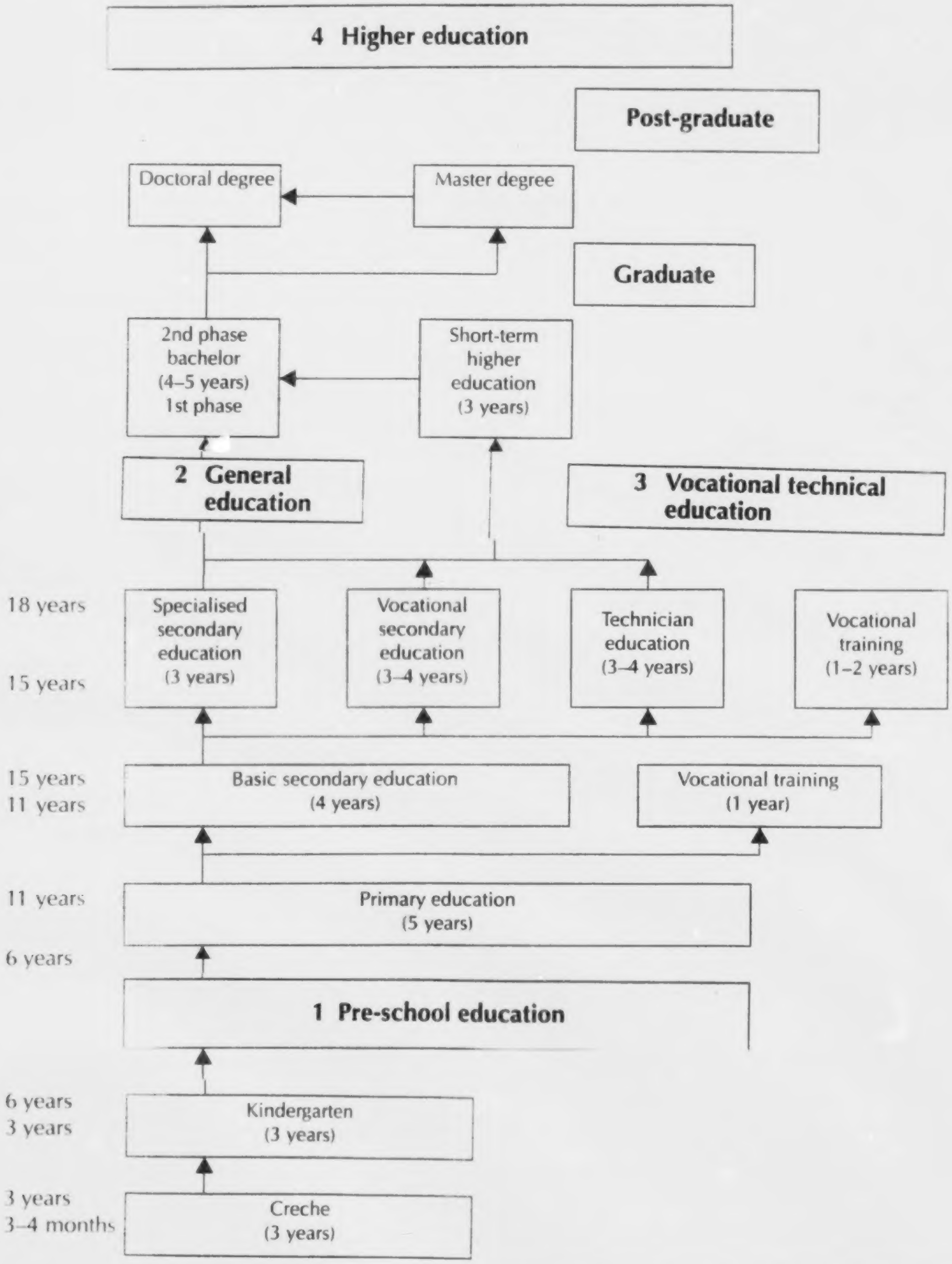
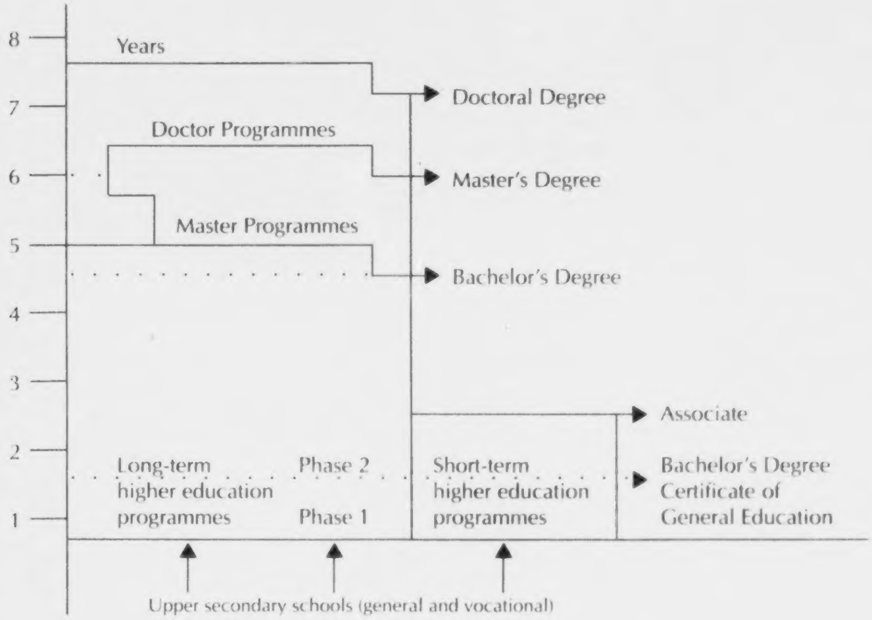

4 Higher education
Post-graduate
Doctoral degree
Master degree
Graduate
2nd phase bachelor (4–5 years) 1st phase
Short-term higher education (3 years)
2 General education
3 Vocational technical education
18 years
15 years
Specialised secondary education (3 years)
Vocational secondary education (3–4 years)
Technician education (3–4 years)
Vocational training (1–2 years)
15 years
11 years
Basic secondary education (4 years)
Vocational training (1 year)
11 years
Primary education (5 years)
6 years
1 Pre-school education
6 years
3 years
Kindergarten (3 years)
3 years
3–4 months
Creche (3 years)

Figure 2: Higher education system in Viet Nam


Years
8
7
6
5
4
3
2
1
Doctoral Degree
Doctor Programmes
Master's Degree
Master Programmes
Bachelor's Degree
Associate
Long-term higher education programmes
Phase 2
Phase 1
Short-term higher education programmes
Bachelor's Degree Certificate of General Education
Upper secondary schools (general and vocational)

The programmes delivered by the present system of VTET can be summarised as follows:

- short-term vocational training/re-training programmes for unemployed/employed individuals to gain specific vocational skills and to receive a certificate to meet specific local demands
- short-term elementary vocational training programmes of less than one year duration for graduates of primary education and to receive a certificate
- one- to two-year vocational training programmes for those who have completed lower or upper secondary education and providing a diploma at the skilled worker level
- three- to four-year vocational training programmes for those who have completed lower secondary education, depending on the trade. These programmes combine general education subjects, generic and specific occupational training and provide a secondary vocational education diploma at the skilled worker level and a general education background for further education.
- three-year secondary technical education programmes. These programmes combine general education subjects and generic as well as specific occupational subjects, and lead to a diploma of technician. Secondary technical education diploma or professional secondary education at the technician level. The graduates will have a general background for higher education.

These programmes are delivered by four different types of institutions:

- vocational training centres (VTCS) operated by MOET to provide short-term vocational training courses for youth and untrained workers while granting a vocational certificate which is normally secondary technical schools (STSS) that grant secondary technical education diplomas
- secondary vocational schools (SVSS) that grant secondary vocational education diplomas
- vocational training schools (VTSS) that grant skilled worker diplomas
- recognised as a qualification to enter the labour force as a semi-skilled worker

Vocational training is also provided in various types of vocational training institutions, including:

- professional orientation and vocational training orientation centres, which provide vocational training as the compulsory part of general upper secondary education
- training centres run by associations and communities
- in the training units within the employment promotion centres which come broadly under MOLISA

Almost all STSs, SVSs and VTSs also offer short-term training programmes. Further, there are many upper secondary schools in general education which have introduced certain VTET-related subjects within their teaching programmes and the graduates of these schools are also normally absorbed into the labour force as semi-skilled workers.

In 1995–96 there were 244 secondary technical schools, 174 vocational schools and over 600 vocational training centres in operation. The distribution of secondary technical schools and vocational schools in terms of main training areas is shown in tables 7 and 8.

Technical and vocational schools prepare students for a labour force which is classified into seven levels:

- Level 1: non-skilled workers (untrained)
- Level 2: semi-skilled workers
- Levels 3 and 4: skilled workers
- Levels 5, 6 and 7: highly skilled workers

Major organisations involved in VTET and their roles

Among the many institutions operating in the VTET system, the Ministry of Education and Training (MOET) and the Ministry of Labor, Invalids and Social Affairs (MOLISA) play key co-ordination roles. The Ministry of Agriculture and Rural Development (MARD), Ministry of Industry (MOI) and Ministry of Health (MOH) are important contributors among line ministries as they operate the largest number of training institutes in VTET. Provincial education and training boards (PETBs) are key actors in the VTET system as they are responsible for operating local-level education and training.

Prior to 1980, centres of craft level training were co-ordinated and monitored by the Ministry of Labor and those of technician level were co-ordinated and monitored by the Ministry of Higher and Technical Education (MOHTE). In 1980, responsibility at craft level was entrusted to an independent Secondary Vocational Training General Department (a department at ministerial level). In 1987, responsibility for co-ordination and monitoring of both craft and technician levels was given to the MOHTE. In 1990 the MOHTE was combined with the Ministry of General Education to form the Ministry of Education and Training (MOET). The Ministry of Labor (presently known as MOLISA), resumed its direct involvement in craft level skills training. Since then MOET has exercised the co-ordination and monitoring role of the VTET system other than the activities carried out by MOLISA. MOET does not operate any VTET centres other than four technical teacher training colleges and a university department for training technical teachers.

The functional responsibility of MOET is to provide policy guidelines, co-ordination and monitoring of curriculum development, instructional material development, testing and evaluation of students and teacher training in VTET. These functional responsibilities in VTET are carried out via the Department of Technical Education and Vocational Training (DVTET). Decree No 29/CP of the government, dated 30 March 1994 specifies that MOET is the government body in charge of state management for education throughout the country, including kindergarten education, general education, technical education, higher education and continuing education for the purposes of development of general understanding, human resources and gifted people, in order to meet the requirements of national construction and defense. For the VTET system, the same decree listed the following responsibilities/powers of MOET:

- Issuing regulations on opening of training branches of secondary technical schools at various levels including secondary technical and vocational training schools and regulations on objectives, nature, contents and methods of education and training applied at various levels.

- Providing criteria for evaluation of training results, regulations on issue and withdrawal of certificates and diplomas certifying educational or training levels.
- Providing equipment, standards for the use and maintenance of facilities and equipment of schools, studying and designing operational models of schools, programmes and teaching tools.
- Instructing and supervising the implementation of programmes, curricula and special professional regulations relevant to different types of schools and programmes.

The line ministries appoint their own training divisions (LMTDs) to plan and implement training programmes in their areas of interest. In many cases, these small divisions were large training departments but have been down-sized as each ministry assumed less and less responsibility for training workers. Some of the LMTDs are so small that they operate within the ministry's Department of Personnel, or its equivalent. The size and functions of line ministry training divisions are outlined.

Unfortunately, the reduction in size and status of the former training departments has not been matched by a reduction in the scope of their responsibilities. The LMTDs are still expected to provide management, support services and leadership to the schools operated by their ministries. With such small staffs, any degree of specialisation becomes impossible, with the result that the training divisions are staffed with 'generalists', many of whom have little or no background in education and training.

The provincial people's committees (PPCs) plan, implement and monitor education training activities at the provincial level. The PPC's are allowed to establish provincial education and training boards (PETBs) for this purpose but presently these functions are carried out by the Departments of Education and Training (DOETs) in each province. The organisational structure and functions of DOETs differ from province to province. Often, the unit responsible for vocational education is separate from the unit that looks after technical education. In general the purposes of the training units within DOETs include helping the People's Committee to manage their part of the VTET system, implementing regulations concerning VTET that are set by the state and planning VTET programmes and services for their province. In the MOET-managed VTET system, enrolments in vocational and technical programmes are a small fraction of total enrolments.

Females accounted for 50 per cent enrolment in general education programmes at the lower secondary level and 45 per cent in upper secondary. The numbers of students in secondary technical programmes increased by more than 20 per cent from 1993–94 to 1994–95 (81 032 to 97 661). Much of this increase was accounted for by the fact that new admissions increased from 33 579 in 1993–94 to 44 435 in 1994–95.

The enrolment in school-based long-term VTET, about 168 507 in SY95, represents about 3 per cent of total enrolments in lower and upper secondary general and vocational school enrolment. The average size of VTET institutions has increased, but overall the average school enrolment in SY95 was about 400 to 500 per school, including students in both long-term and short-term programmes.

Public schools, i.e. those financed by the State, accounted for 52 per cent of vocational graduates in 1995 while institutions belonging to community, social and related organisations accounted for 32 per cent and private institutions about 16 per cent.

The enrolment in secondary technical schools includes some students in post secondary courses, in line with government policy to reform the formal sector by upgrading the secondary technical schools and expand their post-secondary level programmes, while making the schools multi-disciplinary and multi-functional through expanding the range of training programmes including providing pre-employment basic skills training, short specialist skills upgrading and retraining programmes. Secondary vocational education, providing a blend of academic and vocational subjects will also be expanded.

In order to monitor and regulate the VTET system, DVTET tries to maintain institutional linkages and close communication with the training divisions of ministries and with the PETBs. At the beginning of each year, DVTET conducts a meeting with all heads of PETBs and training divisions of line ministries to discuss performance of VTET programmes of the previous year. At this meeting, basic guidelines for planning and implementing training programmes for the coming year are provided.

DVTET inspects VTET institutes of line ministries and of PETBs in an attempt to ensure that the institutes follow the given guidelines and regulations. Whenever new and improved guidelines are introduced, a meeting of representatives of PETBs and training divisions of line ministries is summoned in order to explain the purpose of such guidelines and the ways and means of using them.

All training divisions of line ministries and PETBs are required to submit an action plan with budgetary requirements to the Department of Finance and Planning (DFP) of MOET each year. These plans/budget programmes are then reviewed by the DVTET together with the Ministry of Finance (MOF) and the Ministry of Planning and Investment (MPI) in order to agree on budget allocations. Once budgets are agreed upon, the Ministry of Finance disperses funds directly to each school's managing authority. This practice has a negative effect on the monitoring and regulatory role of the DVTET/MOET.

The PETBs and training divisions of line ministries develop their action plans based on the programmes prepared by their training institutes. The training institutes report to their respective PETBs or ministerial training division every six months, about the activities carried out and utilisation of funds. Based on these reports PETBs and ministerial training divisions present brief six-monthly reports to the MOET/DVTET on how VTET programmes were implemented, how guidelines/regulations of the MOET were carried out and what difficulties were encountered.

The VTET system is horizontally decentralised having other line ministries and agencies at the central level responsible for system delivery, even though MOET has been assigned an important monitoring and regulating role. Similarly, the system is vertically decentralised having different levels of government bodies (i.e. central, provincial and district) responsible for managing training institutes.

The complex horizontal and vertical linkages in the VTET system and in the whole HRD sector is being streamlined with an initiative to establish a National Education Committee chaired by the Prime Minister and having the Education Minister as secretary. The committee is anticipated to establish a national policy for HRD and oversee its implementation while co-ordinating relevant activities of different central and provincial governmental agencies.

Financing and cost-effectiveness of VTET activities

Financing VTET schools, public and semi-public VTET schools in Viet Nam commonly operate with three sources of income. Base funding comes from government bodies at the national, provincial, and district levels. Investment in education is considered one of the principal directions for development and by the year 2000, the expenditure for education and training will account for around 15 per cent of the total state budget. Secondary and post-secondary institutions (except pedagogical schools) are allowed to set and collect tuition fees, thereby providing schools with a second source of income. Vocational/ technical schools, colleges and universities are allowed to organise production and business units under their management. Legislation emanating from this policy opens the door to a third source of revenue: funds earned through contract training and from the sale of goods and services produced by the schools.

VTET accreditation and certification in Viet Nam

In Viet Nam, reforms in the VTET system that are being undertaken have started to include attention to the need for an interrelated accreditation and certification system.

Certification of students' achievement

The near absence of appropriately developed curriculum guides for VTET courses in Viet Nam has made it difficult to evaluate meaningfully the achievements of students either while they are in VTET programmes or as they prepare to graduate. MOET has issued a series of regulations starting in 1986, requiring VTET providers to evaluate the outcomes of both theoretical and practical teaching and learning. These regulations stipulate the internal evaluation procedures that are to be used at the school level. There is a state-wide final examination that students must take as they leave the upper and lower secondary school. However, only academic and not technical subjects are examined.

Certificates and diplomas serve to inform students, employers and the general public that certain standards of education, training and skill development have been reached during students' school careers.

At present, in Viet Nam it is possible to earn various types of diplomas and certificates in the vocational and technical institutions system, namely:

Secondary technical diplomas

These diplomas are issued by secondary technical schools (STSS) that train intermediate-level workers in the fields of technology, economics, education, culture, medicine and art. STSs enrol students at two levels. Students who have finished the upper secondary grades may enrol in highly technical programmes that last two or two and one-half years. Students who have finished lower secondary grades may enrol in low technology programmes that last three or three and one-half years.

Secondary vocational diplomas

The training programmes of secondary vocational schools (SVSs) are a combination of general education and vocational training. The schools enrol students who have finished lower secondary. Students qualify for this diploma after completing three years for simple trades and three and one-half years for more complicated trades.

Vocational training diplomas

Vocational training schools (VTS's) issue these diplomas to students at two levels. Students who have completed lower secondary school can earn a Vocational Training Diploma by completing two years for simple trades or three years for more complicated trades. Upper secondary graduates can complete the same programmes in one or two years, respectively.

Vocational training certificates

Vocational training centres (VTC's) issue certificates based on completion of short-term vocational training courses for teenagers and untrained labourers, especially in rural areas. Duration of each training course of this type does not exceed six months.

The diplomas and certificates issued by VTET institutions become the major and in some cases, the sole determinant of the certificates issued by MOLISA and other industries that are responsible for the certification of workers. A very active debate is now in progress regarding the need for a new system of certificates for workers, to replace the existing seven levels that were used by state enterprises during the previous economic era. It becomes necessary and desirable for VTET personnel to work closely with MOLISA and other agencies to see that there is a rational relationship between the credentials issued to students and the certificates issued to workers.

The inability to issue meaningful credentials limits the role of the VTET system in the emerging efforts to improve provisions for the certification of workers. Once appropriately developed curriculum guides are in place, attention can be focussed on improving the approaches that are taken to evaluate the results of teaching and learning. Then, once appropriate evaluation procedures are in place, it will be possible to examine current practices relating to the issuing of school leaving credentials.

Though directives published in 1986 establish procedures for individual schools to use in evaluating student progress, these directives are now out-of-date and, perhaps more importantly, there is no capacity to develop and administer system-wide assessment of students.

Accreditation of TVET institutions and programmes

At present, there are no procedures in place for evaluating and accrediting the various institutions in Viet Nam. The Technical Education Project is in the pipeline and aims among others to establish the National Accrediting Body for VTET Institutions and Programmes.

Skills certification

In Viet Nam, the existing skills standards are based on the standards from former eastern bloc countries and as such need alignment to the present direction for a more market-oriented economy, and to other countries in the south-east Asian region.

Workers in large state-owned enterprises are assessed or issued certification in accordance with enterprise-based skills standards generally under the supervision of MOLISA.

At present, around 100 occupations have been identified for specification and setting of standards. There are seven occupational skills levels, excluding technicians and senior technicians. Graduates of MOET technician courses can be credited with up to four occupational skills levels while graduates of MOET vocational courses can be credited with up to three levels (ILO, *Final report* TA No. 5681-REG).

MOLISA has started putting the TVET reforms in place and these include the rationalisation of the current system and the establishment of a national skills standards and certification system that will be responsive to the demands of the transition economy.

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Discussion and analysis

THE PRESENT CHAPTER endeavours to identify common features of the vocational and technical education and training (VTET) systems in the SEAMEO member countries, and to identify important areas of difference.

Making generalisations about ten different countries has inherent difficulties, particularly where information has been supplied on a voluntary submission basis. On the one hand it is clear that the history, culture and economic development of each SEAMEO member country is different, albeit interlinked in some cases. On the other hand, a number of countries in the region have a common cultural heritage and most have entered into co-operative arrangements of various kinds for the mutual benefit of their economies and their development. The ASEAN and SEAMEO organisations are the strongest manifestation yet of a longer term interest in co-operation.

Despite some limitations the authors believe that sufficient information is available, either directly or indirectly, to permit the majors areas of similarity and difference to be identified. However, before considering specific aspects of the VTET systems a framework for the comparative analysis must first be provided.

Framework for comparing member-country VTET systems

Scope and definition of VTET

The member country researchers for the project defined VTET as education or training which has a specific vocational focus, but excluding general education undertaken in secondary school or in higher education institutions. In some member countries VTET is known simply as 'VTE' or as 'TVET' (technical and vocational education and training). The terms VTET, VTE and TVET are equivalent.

However, is this scope the same in each member country? The answer to this question is 'yes', except for some minor overlap at the margins which arise because the term VTET is used to refer both to a type of programme and to a sector of the overall education and training system. The differences in scope, where they arise, relate principally to higher or advanced technician courses which may be regarded as higher education in some member countries but VTET in others, and to VTET undertaken by secondary school students.

Increasingly, the distinction between secondary education and VTET is becoming blurred as countries endeavour to ensure that school leavers who are not proceeding to higher education or further training are equipped with the skills needed to enter the workforce. As a result VTET subjects or programmes undertaken in secondary school may be viewed as secondary education in some member countries and VTET in others.

However, the core of VTET, which is vocational education and skills training at the preparatory, operative, trade and technician levels, is found to be clearly and consistently defined across the SEAMEO member countries.

Goals of vocational and technical education and training

What are the goals of a VTET system? Any attempt to answer this question shows immediately that the VTET system in a contemporary country will be complex and diverse, involving people of all ages and programmes of many different types. Although the jargon and the terminology varies, in most countries (and not just the SEAMEO member countries) the goals of VTET will include:

- Meeting the needs of employers and industry for trained and skilled workers, including responding to changing workforce requirements.
- Providing training for those who will become self-employed or who will work in the small business sector or in family businesses.
- Providing VTET opportunities for young people who are not proceeding directly to higher education, and for new entrants to the workforce generally.
- Providing opportunities for existing workers to upgrade or diversify their skills.
- Providing retraining of workers whose skills have become irrelevant or redundant as a result of technological change.
- Providing training or refresher courses for adults seeking to re-enter the workforce after a long absence, for example, mothers and the long-term unemployed.
- Through training, improving the workforce prospects of the disabled and disadvantaged and those involved in marginal economic activities.
- Providing initial or pre-vocational training for those who have not previously participated in VTET programmes.
- Ensuring that skills are transferrable and recognised, and that quality is assured, through appropriate articulation, accreditation and certification arrangements.

How are the goals of VTET achieved?

There is no single blueprint for achieving these goals. However, some or all of the following characteristics are found in the VTET systems in countries around the world.

- The national government, and local or provincial governments where relevant, take a prominent and leading role in education and training.
- Structures are put in place to facilitate industry input into policy and planning processes at national and regional levels.
- There is a clear national policy for VTET, with specific and achievable goals.
- There are strong links to workforce policy and planning systems.

- There is a consistent national training recognition framework for qualifications, including some national standards.
- Where relevant, competency-based approaches to training are used so that training better meets industry skill needs.
- Provision is made for flexible delivery of training and modularisation of training courses so that adults can more easily participate.
- There is a strong system of public, post-secondary training institutes in addition to high-quality, private training providers.
- Articulation arrangements exist among the education, higher education and VTET sectors, and in some cases, there is integration across sectors.
- The outputs and outcomes of training are regarded as important, not just the inputs.
- There is a specific focus on efficiency, quality and accountability.
- Arrangements exist to ensure that information about VTET activity, outputs and outcomes is available to inform policy making and planning processes.

When considered against this framework the information collected for this study shows clearly that there are important points of similarity among the VTET systems of the SEAMEO member countries and in the broader economic and social context in which the VTET system operates in each country. However, the information also shows that the SEAMEO member countries are at very different stages in the development of their VTET systems.

General characteristics of the SEAMEO member countries

Economy

The relative contribution of the different economic sectors (agriculture, manufacturing, commerce, services etc.) to gross domestic product varies among the SEAMEO member countries. However, in a majority of countries agriculture is the dominant economic sector and accounts for a majority of employment. In these countries expansion of the non-agricultural sector, driven by investment from overseas, is seen as critical to raising living standards and to providing employment and business opportunities. In fact, a number of countries (e.g. Malaysia, Philippines) are in transition from a predominantly agricultural base to an economy in which manufacturing, commerce and services account for a majority of output and a much larger share of employment than in a traditional agrarian economy.

Two exceptional cases should be noted in this discussion of economies. The first is Brunei Darussalam, where the majority of output is derived from oil and gas production. The second is Singapore, where manufacturing, commerce and services account for the great majority of output and employment. The recent economic success of Singapore, a country which has few natural resources, has resulted in large measure from actively developing and utilising the skills and abilities of its people, supplemented in recent years by labour migration from abroad. Brunei Darussalam also makes considerable use of labour from abroad.

A number of member countries (Cambodia, Lao PDR, Myanmar and Viet Nam) have, until recently, been run as command economies. In these four countries there has been recent liberalisation and introduction of market reforms, although the extent to which foreign investment and free market operations are constrained does still vary to some extent.

The period from the mid-1980s to the beginning of the Asian financial crisis in 1997 saw considerable growth in the South-east Asian region, stimulated by increased capital inflows and trade volumes. After this period of sustained growth 1998 saw a series of very disturbing developments throughout Asia which had a serious impact on all SEAMEO member countries. These developments included significant currency devaluations, withdrawal of foreign investment, reductions in trade volumes within and outside the region, worker retrenchments and increased unemployment and underemployment. The crisis followed a period of sustained economic growth which had seen the emergence of new high technology and service industries, although the agricultural, traditional and informal sectors had remained the biggest utilisers of labour in a majority of countries.

In the second half of 1999 some member countries are seen to be emerging from the crisis, particularly those which were less affected initially. For many, however, it may be some time before the rate of economic growth and the patterns of structural change return to pre-crisis levels. Even before the crisis the need for a more diverse range of technical and vocational skills had been emerging in many countries for some time, particularly at the more advanced skill levels. The desire to return to positive economic growth patterns reinforces the need for VTET systems which deliver the required training and skills and are responsive to changing needs.

Demographic characteristics

At the present time most of the SEAMEO member countries have population growth rates in excess of two per cent per annum. As a result the proportion of young people in the population is high relative to industrialised western countries. In the longer term, however, it is expected that population growth rates will decline, life expectancy at birth will continue to increase, and the median age for the population for the workforce will increase over the next 20 to 30 years. Youth will not dominate the population of South-east Asia in the 21st century to nearly the same extent that has been seen in the 20th century.

Over the past three decades there have been huge developments in the provision of primary and junior secondary education to the point where almost all children complete primary school education and a half or more participate in junior secondary schooling. As a result literacy levels in the region have improved enormously. Senior secondary education has also expanded rapidly in recent years.

Currently, most formal vocational and technical education and training is directed to young people, including secondary school students in some countries. If birth rates continue to decline the proportion of older people in member country populations will increase. In the longer term this may require a greater focus on VTET programmes for adults and older workers, as occurs in countries such as Australia (appendix 3). Pressures for more VTET programmes for existing workers will also result from the need for greater emphasis on advanced and high level technical skills arising from economic and technological change, the need to ensure that VTET programmes are better able to meet industry requirements, and the need for retraining of existing workers.

Labour market

An important labour market characteristic of many of the economies is an overall oversupply of workers but with shortages of trained and skilled workers. Related to this is comparatively high levels of underemployment and a large proportion of the workforce engaged in informal economic activities. The relatively low educational levels of much of the population in some member countries is one of a number of structural barriers lying in the path of skills development through VTET programmes.

The period of growth which ended in 1997 was accompanied by increased international labour migration, which had a strong impact on some of the SEAMEO member countries. In Malaysia, for example, migrant workers accounted for an estimated 24.0 per cent of the total labour force in 1997, while for Singapore the corresponding figure was 20.5 per cent (in 1996), and for Thailand 6.0 per cent (in 1997) (Athukorola and Manning, p.1). As Athukorola and Manning note, '… the dependence on migrant workers is intricately linked to demographic dynamics and emerging patterns of labour-market segmentation associated with growing prosperity' (*ibid*, p.2).

Although the movement of workers among the SEAMEO member countries might be expected to lead to the establishment of formal arrangements for recognition of qualifications gained in other countries, such arrangements are still largely *ad hoc* with most member countries apparently having no formal arrangements for recognition of foreign qualifications (see below).

It should also be noted that in some member countries, Myanmar and Lao PDR, for example, shortages of teachers or expert staff with specialist skills have been identified as impediments to the expansion and development of the VTET system.

Education systems

In each member country education consists of about six years of primary school, approximately three or four years of lower secondary and two or three years of upper secondary. On completion of upper secondary school a small number of students progress to higher education. Most member-country education systems also provide for non-formal education, which may include literacy and numeracy programmes for disadvantaged adults.

Articulation arrangements are an important part of any education and training system as they provide flexibility through a range of alternative pathways, training opportunities for early school leavers, and skills upgrading and retraining opportunities for people with existing skills or qualifications. In most member countries well-defined articulation arrangements exist in the following areas:

- primary school and lower secondary school
- lower secondary school and upper secondary school or VTET
- upper secondary school and higher education or VTET

However, articulation between VTET and higher education is one area which has yet to develop in South-east Asian education and training systems. Another is university graduates undertaking VTET programmes to gain additional or more specific vocational skills. In Australia, for example, an estimated seven per cent of students undertaking vocational and technical education and training with providers in receipt of public funds have completed a degree or higher level qualification (appendix 3).

Vocational and technical education and training for young people may begin at the end of lower secondary education or after completion of upper secondary, depending on the course being undertaken. Increasingly, however, vocational and technical education and training is undertaken concurrently with secondary education or is being integrated into secondary school curricula. Indonesia is a country where this trend is particularly evident, with the bulk of vocational and technical education and training delivered in secondary schools. A similar pattern is found in Thailand.

Differences and similarities among the member-country VTET systems

From the information presented in the preceding chapters it can be seen that the vocational and technical education and training systems in the SEAMEO member countries are at very different stages of development but with many features in common. All countries have recognised the importance of vocational and technical education and training to their economic well-being. However, the leadership, direction and support provided by member country governments varies considerably.

Overall responsibility for VTET

In all member countries the national government has primary responsibility for the VTET system, and publicly instituted schools and colleges are the major providers of VTET programmes. This feature is in line with countries around the world, and links closely to the responsibility which governments take for primary, secondary and higher education in the great majority of countries.

However, the departmental structures which support government leadership of the VTET systems vary among the SEAMEO member countries, and affect, among other things the extent to which countries have developed and implemented a clear national strategy for VTET. Having such a strategy is important as it is needed to ensure that the VTET system is co-ordinated, adaptive and responsive to change rather than fragmented and *ad hoc* in its operation

In a number of member countries the responsibility for the public VTET system is shared among a comparatively large number of government departments and agencies. In a small number of instances departmental responsibilities even overlap, resulting in a lack of co-ordination, duplication of effort and wastage of resources. By contrast (taking just one example), the new VTET system in the Philippines (the TESDA Occupation Qualification and Certification System, known as TOQCS) is highly co-ordinated under the auspices of a single agency, the Technical Education Skills Development Austhority (TESDA).

Having a clear national policy for VTET

For a government-led VTET system to be effective there needs to be a clear national policy, with specific and achievable goals. Among the SEAMEO member countries there is considerable variation in the extent of integrated policy development and planning.

In the Philippines, the TESDA Board is responsible for determining and implementing national strategies for VTET (TVET) in that country. The process, too, is important as a wide range of stakeholders in both the public and private sectors, including industry, have input into the policy development and planning processes. Similar features are found in the Singapore and Malaysia VTET systems.

Indonesia does not as yet have an integrated national policy for VTET. However, the recent Taskforce Report on the Development of Vocational Education and Training in Indonesia—*Skills Toward 2020* (Ministry of Education and Culture 1995)—is a major step towards the development of a clear national policy.

Brunei Darussalam and Thailand both have elements of national strategies and policies in place, but appear to have some way to go before their VTET systems are responsive and meet workforce requirements. Major shortcomings in the Lao PDR VTET system and the need for strategies and policies to address these have been identified (by the ILO). However, the formulation and implementation of a national policy to address the shortcomings has not yet occurred.

Viet Nam and Cambodia, both still in the process of reconstruction, with external assistance are currently developing national policies for their vocational and technical education and training systems. Myanmar, which has perhaps the least developed VTET system among the SEAMEO member countries, has apparently yet to embark on such a process.

Adapting and responding to changing demands

It is clear that mechanisms for adapting or responding quickly to changing economic and social demands vary markedly among the SEAMEO member countries. In most instances the arrangements are essentially *ad hoc* with few formal arrangements for periodic review. There are some exceptions, however. For example:

- In Singapore, the Ministry of Trade and Industry with input from workers and industry regularly reviews and modifies plans, projections, certification standards and curriculum.
- In Malaysia, review and adaptation is being effected by regular or periodic review of the national occupational skill standards (NOSS) about every three to five years, depending on the skill areas.
- In the Philippines, TESDA plays an important role in ensuring that the country's VTET (TVET) system is responsive to changing occupational and industry requirements.

These arrangements have some parallels with the role played by the industry training boards in Australia, which provide advice to the Australian National Training Authority on industry training needs and suggested strategies for meeting those needs.

Providers of VTET

In all member countries except the Philippines, government institutions are the major providers of VTET programmes. Also, in Thailand private vocational schools are important providers of VTET to young people.

Information about the non-government providers of vocational and technical education and training is limited but is known to include:

- private vocational schools (e.g. in Thailand and Indonesia)

- business and commercial colleges
- industry- or occupation-specific training centres (e.g. in the computing area)
- campuses of overseas VTET institutions

In countries where a private provider sector exists it tends to be local and *ad hoc* and not part of national planning. While this could be seen as undesirable, in countries such as Cambodia where so much of the government VTET system has been destroyed, the existence of an *ad hoc* private training sector is undoubtedly preferable to no training provision at all.

The role of secondary schools in the provision of VTET to young people also varies considerably among the member countries. In Thailand, Indonesia and Lao PDR, for example, many students of secondary school age attend vocational schools as an alternative to general education at a secondary school, or undertake a mix of general and vocational studies. In Singapore, by contrast, students complete four or five years of general education at secondary school before progressing to either VTET or upper secondary education.

Delivery of VTET programmes by private providers

A majority of countries in the region have made regulatory arrangements to allow VTET programmes to be delivered by private-sector providers or are in the process of making such arrangements. However, the role of private providers varies considerably among the member countries. In the Philippines a large private provider sector has been established for many years and is equally as important as the public sector, perhaps more so. At the other end of the range are countries such as Brunei Darussalam and Lao PDR, where accreditation of private providers to conduct recognised training programmes is a quite recent development, and Myanmar, where a new and as yet quite small private sector is developing without any formal system for provider accreditation.

Private-sector activity also includes enterprises providing training directly to their employees or making arrangements for a third-party private-sector organisation to deliver training to employees or potential employees. On the one hand, this type of activity is desirable as it represents an important contribution by the private sector to overall skills formation. On the other hand, the training programmes delivered are often not accredited and do not lead to the development of generic competencies or transferable skills or the issuing of recognised qualifications. For these reasons it is important that formal accreditation and certification arrangements extend to private-sector VTET activity. Some member countries have introduced such arrangements but a majority have not (see below). Clearly the SEAMEO member countries are at very different stages of development in this area.

In some member countries private-sector involvement in training occurs because the public VTET system is not or cannot meet employer needs. In these situations it could be argued that the failure of the public VTET system to provide training programmes which meet the needs of industry or would support the establishment of new industries has held back overall economic development. Studies have suggested that this is the case in a number of member countries where there is a large and underutilised supply of labour in the agricultural sector but a shortage of trained and skilled workers in other sectors.

Even in a dynamic and responsive VTET system where the public sector is the major provider of accredited programmes, private providers have an important role to play. In Australia, for example, the diversion of a small proportion of public allocations for VTET to private providers helps to ensure that the system is reponsive to changing workforce requirements and, through competitive tendering arrangements involving both public and private providers, helps to control costs (appendix 3).

A strong system of public providers is an important element in an effective VTET system. However, there are also some advantages to be gained from diverting a proportion of public funds to the private sector on a competitive basis. In particular:

- Private-sector providers are generally able to respond more quickly than established public institutions when a new VTET programme or expansion of an existing programme is required.
- The process of competitive tendering for public funds helps to reduce costs for the VTET sector as a whole, particularly if public-sector providers also bid competitively for part of their funding.
- Funding additional training places in the private sector can help to reduce unmet demand when all publicly-funded places in a programme are filled.

Although there is the potential for a number of the SEAMEO member countries to make better use of accredited private providers in the development of their VTET systems, it is important that this be achieved within proper regulatory, recognition and quality assurance frameworks. Without such frameworks the potential benefits of including some private-sector providers in the formal VTET system will be lost.

Accreditation of VTET providers

Most member countries have accreditation requirements for private VTET providers. Although private providers can usually deliver VTET services without formal accreditation, accreditation is usually needed for the provider to be able to issue recognised qualifications or to receive public funds to deliver VTET programmes. Examples of the accreditation requirements for private VTET providers are given in chapter 6 (for Lao PDR) and chapter 10 (for the Philippines).

In both the Philippines and Thailand, where the private sector has a prominent role in the provision of VTET services, accreditation against specified requirements is necessary for private providers. In Thailand the Office of Private Education Commission oversees private schools, including private vocational schools. In the Philippines, the accreditation system for private providers is included in that country's restructured VTET system (known as TOCQS), and eventually will also require trainer certification, to ensure that trainers have appropriate qualifications and at a level at least equivalent to the programmes for which they provide training.

In some member countries, Singapore and the Philippines, for example, the accreditation of a private provider also covers the VTET programmes which the provider can offer.

For Indonesia it has been argued that an important issue in the development of the country's VTET system is the further development of national recognition arrangements whereby training organisations are registered if they meet certain standards and where they are quality assured through compliance audits (Robinson, 1998).

Myanmar is apparently yet to develop accreditation arrangements for private VTET providers, perhaps because as yet there are very few non-government providers of VTET in that country and VTET activity of any kind is quite limited.

Accreditation of VTET programmes

All member countries in the region have arrangements for accrediting vocational and educational programmes, with levels in a national qualifications framework in some instances providing an overall structure. What also varies among the countries is the nature of the programmes which are accredited.

In Myanmar, Lao PDR, Cambodia and to some extent Viet Nam, many of the accredited VTET programmes appear to fall under the heading of 'general education', which is important but not by itself sufficient, and skills training for specific occupations or industries is not well developed.

Singapore, Malaysia and the Philippines are three examples of countries which have a VTET system of nationally recognised qualifications of skills attainment and skill standards covering a range of levels within a qualifications framework.

By contrast, in Indonesia and most other member countries the provision of advanced-level VTET programmes is less widespread and the number of students involved appear to be comparatively small. This is understandable given the need to focus on training programmes for young people in these countries. On the other hand, it makes it difficult to meet identified workforce requirements in high-level science and technology areas, where the greatest potential for skill shortages exists now and in the future. Given the relative cost of providing top quality advanced technical training, it will be critical for these countries to establish a comprehensive dialogue with the relevant areas of industry to identify those areas of advanced technical training which need to be accorded the top priority, and to develop and accredit appropriate VTET programmes.

It should also be noted that in most member countries the programmes which are accredited are whole courses. Only in a few cases—Singapore is one example—does modularised curriculum allow skills at the module (i.e. subject) or unit-of-competency level to be assessed and certificated. The availability of modularised, accredited programmes facilitates the upgrading of existing skills and the development of new skills for existing workers.

Occupational skills maps and skills standards

As with other aspects of VTET, the use of occupational skills maps and skills standards to improve the responsiveness of the system to industry and workforce needs varies considerably.

Four countries in the region, namely Singapore, Malaysia, the Philippines and Thailand, have implemented or are in the process of implementing occupational skills maps and skills standards as the basis for their VTET programmes and qualifications. In Thailand, however, it appears that the initiative has not developed as expected.

In Indonesia, it appears that the current review and reforms of the VTET system will lead to the adoption of occupational skills maps and skills standards, and competency-based approaches to training, for some industries and occupations. The process of reconstruction and reform in Cambodia and Viet Nam is also expected to lead, eventually to the adoption of skills-based approaches to VTET programme design.

In the other SEAMEO member countries, VTET programmes are generally designed around traditional, curriculum-based approaches to training, and there is evidence from reports by the International Labour Organisation and other bodies that these systems are not meeting actual or potential workforce requirements, which in turn tends to retard economic development.

Overall, it is clear that there is considerable scope for the expansion of skills-based approaches to training in a majority of the member countries. It should be noted, however, that skills-based approaches to training may not be appropriate for all types of training programmes, particularly those in the general education area or which seek to develop generic rather than specific skills.

Recognition of skill standards and qualifications in the region

Despite the important role played by international labour migration in the recent development of the region (see, for example, Athukorola and Manning), formal recognition of skill standards and qualifications among SEAMEO member countries is not, as yet, widespread but instances do occur on a case-to-case basis.

For example, Malaysia has reported instances of translation of certificates done by NVTC presumably to be used in other countries, although it is doubtful that Malaysian NVTC certification is widely accepted in SEAMEO countries. There are examples of co-operative efforts for mutual recognition and standardisation through regional initiatives such as the BIMP-EAGA to develop a framework for use in the region, but it is expected that this may take some time to materialise.

Formal recognition of overseas qualifications appears not to be a feature of member-country VTET systems, even those countries which have well-defined qualifications frameworks. This is in contrast to say, Australia, where the need to assess overseas qualifications and to equate them to local qualifications has been formalised, and placed under the control of the National Office on Overseas Skills Recognition (NOOSR). NOOSR also provides advice to Australian embassies on the equivalence between overseas qualifications and Australian qualifications for use in processing settlement or work permit applications.

ASEAN national skills competition

The countries in the ASEAN regions have made a formal commitment to upscaling and upgrading the skilled workforce sector. This commitment is indicated by the regional participation and communal involvement in the Skills Training Olympiad, hosted by a different ASEAN member country each year for the past three years. The Olympiad provides incentives, awards, and national recognition to winners during the competition.

At the national level, ASEAN countries conduct their Annual Training Skills Competition, after which, selection processes are conducted to determine which group would best represent the country for the Skills Training Olympiad. In the past three years, this practice has been generally supported by government authorities whose tasks are on skills development, for example, TESDA in the Philippines, DOVE in Thailand, the DTE in Malaysia, ITE in Singapore, etc. This competition encouraged and promoted harmonisation of skills and provided opportunities for the skilled workforce. Other ASEAN countries such as Cambodia, Lao PDR, Myanmar and Viet Nam are still in the process of taking steps to be involved in the competition.

Countries outside the region also have such competitions. In Australia, for example, the annual training awards organised by the Australian National

Training Authority recognise outstanding achievement in all aspects of the vocational education and training system by providing awards for the training provider of the year (both government and private), the training employer of the year (for both small business and large enterprises), the apprentice and trainee of the year, and awards for other specific student groups such as Aboriginal and Torres Strait Islander students.

While it could be argued that awards and competitions are largely ceremonial in their function, they have the effect of causing employers, providers and system managers to focus on the quality of VTET services and on achieving the high standards necessary to qualify for an award, and they publicise excellence and good practice as examples for others.

Opportunities for skills upgrading and lifelong learning

In about half of the member countries the focus of the VTET system is on young people, and opportunities for skills upgrading and lifelong learning are relatively limited.

However, the need for skills upgrading and lifelong learning has not been ignored. In Indonesia, for example, the changing nature of work and its implications for skill formation policies has been recognised, and the Ministry for Education and Culture in its 1997 report—*Education Development in Indonesia*—argued that:

- demand will increase for 'mind workers' whose key skills will need to be the utilisation of intellectual capacities and innovations to be creative and innovative
- development of workers abilities to be able to contribute to and participate in work decision-making will be more important in the future
- complex expertise and skills in using advanced technology will be needed more in the future
- the development of manpower that is able to process and utilise information will be critical

(Indonesia Ministry of Education and Culture 1997a, pp.112–114)

Demographic forecasts for SEAMEO member countries generally show that a major upward shift in the age profile of the population will occur over the next 20 years. This factor, and the changing nature of work, means that there will need to be a corresponding shift of emphasis towards lifelong learning and re-skilling in VTET systems.

The shift in emphasis has already begun in some member countries. For Malaysia, for example, one of the major strengths and advantages of the NVTC system is that it provides a pathway for workers to upgrade their skills. There is also provision within the framework for recognition of prior achievement, which allows existing workers to gain new qualifications without having to undertake subjects where they already have the skills. Provision for recognition of prior learning or achievement, and acknowledgement of the importance of lifelong learning, is also made in the Philippines TESDA Occupation Qualification and Certification System (TOCQS).

Non-recognised VTET qualifications issued outside the official certification system

A high incidence of non-recognised or overseas VTET qualifications could be seen as an indication that a country's training system is not meeting the demands of the economy. In practice the situation is more complex, and there will always be a legitimate role for training or qualifications which fall outside a country's formal or publicly-funded vocational and technical education and training system.

In smaller countries, Brunei for example, it may be more economical to arrange to train workers overseas or to import workers who already have the required training and qualifications than to provide training programmes within the country. And in some specialised skills areas, for example, training in the use of specific machinery or computer software, the companies who manufacture or distribute products are best placed to provide training in their use.

Malaysia has reported that it is extremely difficult to estimate the numbers of non-recognised VTET qualifications. It is thought that prior to the NVTC framework, the numbers might have been significant. However, for historical reasons, most of the qualifications are foreign in nature and mainly provided by private training providers. Hairdressing is one area where there is a number of foreign qualifications being offered.

In Malaysia and some other countries in the region there are private institutions providing VTET qualifications. The availability of these programmes is often widely advertised in the media, and they include:

- the Workers Institute of Technology
- qualification offered by City and Guilds of London
- Ordinary National Diploma (OND) and Higher National Diploma (HND) qualifications accredited by the Business and Technology Education Council

(BTEC) in the United Kingdom (now known as the Edexcel Foundation) are also quite popular

- courses at Higher National Diploma level offered by the recently established British Malaysia Institute
- courses offered by distance learning or at local campuses of overseas VTET providers (e.g. Australian technical and further education institutes)s

For Viet Nam, Business Monitor International Ltd has reported that 'In certain areas—English language and information technology training, for example—private sector provision largely makes up for public deficiency. However, in less popular but equally important areas, this is not the case.' (Forecasts and trends to end 2000, 1998, p.32). The quotation highlights that private-sector activity outside the public system will not necessarily compensate for shortcomings in the public VTET system.

Provision and role of non-formal education

Non-formal education systems and programmes are necessary in all countries to cater for the needs of minority groups in society, such as refugees, ethnic minorities, immigrants, school 'drop-outs' and early school leavers, socially or economically discriminated sectors of society, and people with handicaps or disabilities. The overall need might be greater in countries with a lesser developed education and training structure. However, its necessity will diminish with socio-economic progress and corresponding improvements in the educational system.

At the present time Thailand and Lao PDR both have government departments with specific responsibility for providing non-formal education through government providers specifically set up for this purpose. In the Philippines the Office of Non-formal Technical Vocational Education and Training has been established for this purpose, although the providers need not be in the government sector.

Most countries in the region make some provision for non-formal education.

Research and evaluation to improve vocational and technical education and training

Only a few countries in the region have developed a national programme of research and evaluation to provide the stimulus for development and improvement of their VTET systems, although some countries—Malaysia, for example—have implemented some key elements of such a programme, while in Singapore, development of the VTET system is closely linked to manpower policy and planning.

The shortcomings in this area, which are due in part to lack of appropriate expertise in many of the member countries, have been recognised by SEAMEO VOCTECH and other agencies. In 1997 SEAMEO VOCTECH began in earnest a programme designed to provide training in key aspects of research and evaluation to representatives from member countries. These have taken the form of generic programmes conducted at the SEAMEO VOCTECH Regional Centre in Brunei, and more specific in-country programmes.

In the longer term, enhancements to member-country research and evaluation programmes, together with greater access to research results from other countries, could prove to be an important ingredient in any policies designed to develop and improve the VTET systems in member countries. With respect to the latter point the National Centre for Vocational Education Research in Australia runs an international research information database (called VOCED) which can be accessed on the Internet (http://www.ncver.edu.au/voced.htm).

It should also be noted that few member countries have in place comprehensive management information systems to support policy and review processes and to facilitate research and evaluation. This is in contrast to the detailed profile of a country system (Australia) presented in appendix 3, which is made possible by the routine availability of reliable statistical information.

Role of apprenticeship

The use of the apprenticeship system as a means of training people in specific vocations also varies among the SEAMEO member countries. An apprenticeship usually consists of on-the-job training undertaken as part of paid employment with an employer, coupled with formal study and training with a VTET provider.

Traditionally, the vocations covered by the apprenticeship system were in trade and craft occupations. However, the special value of this mode of training has been recognised and in some countries it has been extended to both entry-level training and to post-trade and higher level occupations.

The duration of apprenticeship training has also changed. Traditionally, apprenticeships lasted for several years. However, in some countries the system has been extended to shorter training programmes at lower skill levels. These newer arrangements are sometimes known as 'traineeships' (e.g. Australia) or 'learnerships' (e.g. South Africa).

In an apprenticeship system the person to be trained usually enters into an indenture (a legal contract) with an employer. Under the terms of the indenture the employer undertakes to provide the apprentice with employment and training on-the-job, which is usually supplemented by formal, off-the-job training with a VTET provider such as a school or technical college. On successful completion of the apprenticeship the apprentice is usually issued with a recognised qualification which allows him or her to work as a fully qualified tradesperson or craftperson.

The continuation of traditional methods for training craftpersons, and the historical influence of former colonial powers, has led to the establishment of apprentice training arrangements in some SEAMEO member countries (e.g. Singapore, the Philippines). These have been noted in the country chapters.

However, some countries which historically did not have a formal or developed apprentice training system have recently introduced this mode of training. For example, in order to ensure that entry-level vocational education is better orientated to the needs of industry and the workplace, Indonesia has implemented policies to overhaul and rapidly develop its comparatively small apprenticeship system. The apprenticeships run for three years, the typical duration of vocational secondary school programmes. Under this scheme students spend part of their time working in companies as apprentices. The decision to develop an enhanced apprenticeship system in Indonesia had led to a massive increase in the number of apprentices. As in Australia, for example, apprenticeships in Indonesia are not restricted to trades and crafts. They are targetted towards a range of occupations including secretarial occupations, travel and tourism occupations, bookkeeping, retailing occupations, hairdressing, dressmaking/clothing manufacturing and food preparation and processing.

It is clear that apprentice-type training arrangements are important or growing in importance in a number of SEAMEO member countries. However, none has yet reached the situation of Australia where in mid-1999 there were 250,000

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individuals in training as an apprentice or trainee, representing about 2.1 per cent of the workforce of 12 million (appendix 3).

Strengths, and areas requiring development

In all member countries governments have accepted that the public sector has responsibility for providing the policy frameworks for VTET and for instituting arrangements for the delivery and recognition of VTET programmes. In fact, the great majority of formal VTET activity in the region is delivered by publicly instituted and funded schools and colleges.

However, the priority given to VTET does vary among the member countries, and in a number of cases the government approach tends to be passive and reactive rather than proactive and developmental (e.g. Lao PDR, Myanmar and until recently, Cambodia). Allied to this is an absence, in some countries, of a clear strategic plan for the development of the VTET system.

The amount and level of skills training provided is also a concern in some member countries and leads to economically damaging shortages of workers at higher skill levels. This in turn leads to a dependency on skilled workers from abroad and denies local people the benefits (usually higher wages) of employment at higher skill levels.

However, in this context three contributory factors should be noted:

- In some countries the major focus for developments in education and training in recent decades has been increasing participation in primary education, which is a necessary precursor to the expansion of VTET.
- As a result of the political stance taken by some member countries, and the policies and priorities of external development agencies, the nature and extent of the external support available to assist countries develop their VTET systems has varied.
- In two countries, namely Cambodia and Viet Nam, wars and internecine struggles have destroyed much of the infrastructure and for many years have diverted government attention and resources away from the development of an effective VTET system.

A number of countries in the region have recognised the need for major reform of their existing VTET system and, with assistance from external agencies where needed, are developing and implementing strategic plans to achieve this goal. These countries include Brunei Darussalam, Cambodia, Indonesia, Thailand and Viet Nam. Other countries, for example, the Philippines and

Malaysia, recognised the need for reform further back in time and as a result are much more advanced in the development of their VTET systems. Singapore was the first country among the SEAMEO group to experience industrialisation and recognised, much earlier, the importance of an educated, trained and skilled workforce. As a result it has an advanced and responsive education and training system.

Conclusions

If the results of the present work could be summed up in a single statement, it would be that much has been achieved in VTET, much has yet to be achieved, and the distance still to be travelled varies enormously among the SEAMEO member countries. What does not vary, however, is the importance of the task.

The existence of a clear relationship between economic development and the supply of educated and skilled workers is occasionally challenged but on the whole, widely accepted. For those member countries which are already economically advanced the continued supply of educated and skilled workers is essential to maintaining economic strength and growth. On the other hand, in countries where economic growth based on an expanding industrial or commercial sector is yet to occur, effective and responsive education and training systems are essential for meeting emerging or potential workforce demands and for economic development.

Of particular concern are those few countries in the region which have a relatively undeveloped VTET system with inadequate amounts of skills training being undertaken, clearly in need of review and reform, where there appears to be little interest on the part of government to provide the leadership necessary to effect change.

Appendices

Appendix 1: Country researchers

Dk Hamidah bte Pg Haji Hidup
Education Officer
Technical and Vocational Education Council
Department of Technical Education
Ministry of Education
Brunei Darussalam

Awg Mohd Samin bin Md Yusof
Senior Education Officer
National Accreditation Council
Ministry of Education
Brunei Darussalam

Mr Bun Phearin
Deputy Director
Preah Kossomak Vocational Training Center
Ministry of Education and Sports
Phnom Penh, Cambodia

Mr Sumarno
Staff member
Center for Teacher Training and
Development for Technology Education
Malang, Indonesia

Ms Varadune Amarathithada
Officer
Planning, Statistics, and Administration
Division
Department of Higher Technical and
Vocational Education
Ministry of Education
Vientiane, Lao PDR

Dr Mohamed Rashid bin Navi Bax
Deputy Director
Planning and Research Division
Technical Education Department
Ministry of Education, Malaysia

Mrs Irene Isaac
Regional Director
Technical Education and Skills
Development Authority (TESDA) for NCR
Metro Manila, Philippines

Mr Koh Ho Seng
Manager
Technical Skills Curriculum
Institute of Technical Education
Singapore

Mr Sutinun Pronanuluck
Instructor
Faculty of Engineering
Rajamangala Institute of Technology
Bangkok, Thailand

Dr Phan Van Kha
Deputy Director
National Institute of Educational
Development (NIED)
Ministry of Education and Training
Hanoi, Vietnam

From SEAMEO VOCTECH:

Dr Sukardi
Voctech Specialist

Haji Zakaria bin Haji Yahya
Voctech Specialist

Nur Judy Morente Merusin
Manager Training and Consultancy
Division

From partner agencies:

Dr Baby Alto
Deputy Director
Colombo Plan Staff College
Manila, Philippines

Mr Brian Knight
Manager Data Reporting and Analysis
National Centre for Vocational Education
Research Ltd
Adelaide, Australia

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Notes

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Project Librarian
National Centre for Vocational Education Research Ltd
252 Kensington Road, Leabrook SA 5068, Australia

email: heather@ncver.edu.au

Ph: +61 8 8333 8493
Fax: +61 8 8331 9211

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Australia

Australia provides an example of a relatively complex and diverse vocational education and training (VET[1]) system, reflecting the diversity of Australia's economy and society. Government agencies at all levels are involved, and non-government agencies also. The Australian vocational education and training system is constantly evolving to meet emerging needs and changing demands.

Background

Geography and demography

Australia is a large, relatively isolated country located on the south-west of the Pacific rim. As an island continent, Australia has no land border with any other country. Its nearest neighbours are Papua-New Guinea and Indonesia to the north, and New Zealand to the south-east. Australia has a free-trade alliance with New Zealand, a defensive alliance with New Zealand and the United States of America (ANZUS), and more recently has entered into defence agreements with Indonesia. Since the end of the second world war in 1945 Australia's links with its near-neighbours in the Asia-Pacific region have grown steadily in importance.

Great size and long distances are two of the distinguishing features of Australia. A voyage around Australia's coastline involves a journey of almost 20,000 kilometres and this perimeter encloses a land area equivalent to that of the United States of America (USA) excluding Alaska. However, most of the land is uninhabitable or suitable only for marginal economic activities.

In the early days of non-indigenous settlement by the British, the need to secure such a vast area, and the desire to exploit its economic potential, lead to the establishment of settlements located far apart around the coast. These settlements, together with Canberra, which came much later, are now the capital cities and major centres of the eight States and Territories.

Although physically very large (nine million square kilometres compared with 10 million square kilometres for the USA), most of the country is uninhabited or only sparsely settled. Although rich in resources, it has long been recognised that environmental factors (e.g. fresh water supplies) place practical limits on the population which the country will support. The total population in 1999 is approaching 19 million (compared with 220 million for the USA). Although the overall population density is very low (about 0.5 persons per square kilometre), the great majority of the population is concentrated in the cities and major towns in coastal areas, particularly in the east and south-east and a small area in the south-west of Western Australia. In fact, since the first non-indigenous settlement Australia has been highly urbanised with close to 80% of the population living in the cities and major towns.

A major theme in Australia's history has been geographical isolation and the 'tyranny of distance', in terms of both the distance from other countries and the distance between major centres within Australia. For example, Sydney, Australia's largest city, is 3,300 kilometres from Perth, the largest city in the west, and 3,200 kilometres from Darwin, the largest in the north. Australia's smallest State, Tasmania, is separated from the mainland by more than 200 kilometres of rough seas, namely Bass Strait. However, in recent years major technological advances in transport and communication, and the strengthening of links with near neighbours in the Asian region, have ameliorated many of the adverse effects of distance on Australia.

Since World War II immigration has been an important contributor to population growth, to maintaining the demand for labour, and to the development of a multicultural society.

As a consequence of compulsory primary and lower secondary education over a long period, adult literacy in Australia is close to 100%, although 'functional literacy' is generally considered to be slightly lower.

Life expectancy at birth is now over 80 years for women and about 80 years for men. This, combined with low birth rates and reduced immigration in recent years, has meant that the proportion of older people in Australia's population has been increasing steadily. With the number and proportion of young people in the population declining, it is becoming increasingly difficult for Australia to meet its needs for a skilled and trained workforce from among the young. Training and retraining of older workers has become increasingly important and will continue to be so.

History and government

Australia was first settled by Europeans in 1788, as a British penal colony. The indigenous Aboriginal and Torres Strait Islander population had occupied the continent for many thousands of years, but were driven from their traditional lands by the new settlers, and now comprise about 2% of the total population. The original six colonies (New South Wales, Victoria, Queensland, South Australia, Western Australia and Tasmania) were united to form the Commonwealth of Australia in 1901. At the same time as the new nation was born it gained independence from Britain. The British influence and traditions remained strong for much of the 20th century. However, during World War II a strategic alliance with the USA was formed and quickly developed in importance.

Since 1901 Australia has had a federal system of government. There are now eight, democratically-elected State and Territory governments, and a democratically-elected national government. Under the Australian constitution the national government has defined powers and all residual powers lie with the States. In practice, however, most government revenue and expenditure is controlled by the national government, and this has allowed it to assume partial or even full control of areas of responsibility where the constitutional authority rests with the States and Territories. Education and training are two areas where this extension of national government involvement has occurred.

Distance and population distribution have profoundly influenced the structure and efficiency of government in Australia. For example, the existence of eight separate State and Territory training authorities, geographically distant from each other, has on occasions resulted in duplication of effort when addressing the same or similar problems. Also, it has sometimes precluded the economies of scale which might result from a nationally consistent approach.

Effective co-operation between the Commonwealth and the States and Territories is now an important feature of Australian government. In the vocational education and training sector, with the establishment of the Australian National Training Authority in 1993 (Commonwealth of Australia Act No.203 of 1992) a larger number of initiatives which are national, and nationally consistent, in their focus and scope have been implemented co-operatively through agreements at Ministerial level between the Commonwealth and States and Territories. New Apprenticeships, the Australian Recognition Framework (ARF), the Australian Qualifications Framework (AQF) and the development of National Training Packages are just a few recent examples.

Economy

The Australian economy has grown steadily in the 212 years of European settlement, with relatively few periods of stagnation. Before World War II primary industries (wheat, wool, meat, dairy products and minerals) were the largest single contributor to gross domestic product (GDP). Since World War II manufacturing and service industries have grown steadily in their contribution to GDP. Although exports of primary products, coal and minerals continue to be critically important to the country's balance of payments, these industries now contribute only about 5% to total GDP.

Because of its relatively small population the domestic market is small and Australia is heavily dependent on imports of many consumer and capital goods, which must be offset as much as possible by exports. Consequently, Australia has strong trade links with many countries throughout the world, particularly in the Asia-Pacific region. In recent years growth has been assisted by the return of low inflation and low interest rates. Because of its dependence on trade, particularly with Asia, and on world commodity prices, an economic slowdown was expected during 1999 as a consequence of the downturn in Asia. However, contrary to expectations, such a slow-down did not eventuate and Australia continued to experience high levels of economic growth.

Despite the underlying strength of the economy, in the last two decades unemployment in Australia has remained stubbornly high, in the range seven to ten per cent. with much higher rates of unemployment among young people. Successive governments in Australia have sought to provide education and training opportunities as a means of addressing persistent unemployment among specific groups, young people, for example. Also, governments throughout Australia now place strong emphasis on high technology industries, supported by a well-educated and trained workforce, as a key to Australia's future prosperity.

Australians enjoy a very high standard of living and quality of life, among the highest in the world, with income somewhat more evenly distributed than in other wealthy countries. Factors which have contributed to this include the natural resources found in Australia, social and political stability, steady and sustained economic growth, the diversity of economic activities, continuous government investment in both economic and 'social' infrastructure (for example, education and training), the relatively small population, and controlled but responsive immigration programmes to expand the available workforce.

Overview of the education and training system

Broad principles

Historically, the Australian education system has encompassed the following broad principles:

- universal compulsory education from ages 5 to 14 years
- largely free primary and secondary education
- equality of access and opportunity for all groups in the community
- recognition of social, cultural and religious diversity
- the need to impart basic skills and competencies in key areas (e.g. social development, literacy, numeracy, technological awareness)
- the need for preparation for the world of work
- opportunities for progression to higher education or vocational education and training

- selection based on merit (for example, in the selection of year 12 graduates for university places).

In recent years greater emphasis has been placed on the teaching of skills required in the workplace. At the same time, the introduction of user-pays policies and increases in basic charges (for example, books and equipment levies by government schools) have undermined some of the basic principles on which the Australian system was founded in the past. None-the-less, the Australian education and training system provides a wide range of opportunities to people of all ages and, in contrast to many SEAMEO member countries, there are relatively few barriers to educational and training opportunities which allow individuals to develop their interests and potential to the full.

Primary and secondary education

The education and training system in Australia includes the following elements:

- pre-school (up to two years, usually for children aged three to four years)
- reception or kindergarten (one year)
- primary school (Year 1 to Year 6, six years)
- lower secondary school (Year 7 to Year 10, four years)
- upper secondary school (Year 11 and Year 12, two years)
- vocational and education and training (no fixed duration, and may begin at secondary school)
- higher education (three to five years for a degree or honours degree)
- post-graduate higher education (no fixed duration)
- adult and community education (no fixed duration).

Although primary schooling usually starts at the age of five years, many children attend pre-school for one or two years before starting primary school. A typical education then starts at age five years with one year of reception (kindergarten), followed by six years of primary school, four years of lower secondary schooling, and two years of upper secondary schooling (in the State of South Australia the pattern is actually 1:7:3:2). Attendance at school is compulsory until the age of 15 years is reached. Consequently, those who have undertaken school education in Australia have completed at least nine or ten years of schooling. In the early 1990s the proportion of young people proceeding from year 10 to year 12 peaked at around 90% but has since fallen, although the rate is still higher than in the early 1980s.

Post-school education

School education may be followed by three or more years of university education, or vocational education and training ranging from just a few months to several years. Increasingly, students undertake some vocational education and training while still at school, and in some States and Territories joint secondary school-VET programmes are available from year 10 onwards. The most usual patterns of progression through the education and training system are:

- Year 10/11/12 to the workforce.
- Year 12 to higher education.
- Year 10/11/12 to vocational education and training (including apprenticeships and traineeships).

However, provision also exists for adult entry or re-entry to upper secondary education, university study or vocational education and training. With the increased emphasis on lifelong learning and the need for skills upgrading and retraining, the ready availability of these alternative pathways is particularly important. An emerging pathway is university graduates undertaking vocational education and training to improve their employment skills.

The community education sector is also important, particularly for adults. Community providers deliver both vocational and general education and training programmes, and recreation, leisure and personal enrichment programmes also[2]. In some States and Territories the community education sector is supported by government grants and subsidies.

Estimates of total education participation rates in all forms of education and training in Australia in the relevant age cohorts are:

- The net primary school participation rate, in 1995, was 98%.
- The net secondary school participation rate, in 1995, was 89% but has fallen since.
- The tertiary (i.e. vocational education and training and university) participation rate of youth, in 1995, was 72% (Lenahan, Burke, Hing Tong Ma 1998, p22).
- In 1998, 12% of the working-age population aged 15 to 64 years undertook some form of vocational education and training with providers who receive public funds.
- A further 3% of the working-age population in 1998 undertook personal enrichment education and training.

Overview of the vocational education and training system[3]

Structure of Australia's vocational education and training sector

The Australian vocational education and training system is characterised by considerable diversity and flexibility and, by world standards, high levels of participation. There are many and various ways in which people in Australia gain the skills needed to enter the workforce for the first time, to re-enter the workforce, to retrain for a new job or to upgrade skills for an existing job. The various pathways include:

- Gaining work-related skills through general secondary education or through a specific vocational education and training programme run in schools.
- Gaining work skills through undertaking a vocational education and training subject offered by a Technical and Further Education (TAFE) institute or another registered vocational education and training provider.
- Gaining more intensive work skills through participation in a full vocational education and training course offered by a TAFE institute or other registered vocational education and training provider leading to a certificate or diploma qualification.
- Undertaking an apprenticeship or traineeship with a registered vocational education and training provider, which usually combines formal training with on-the-job training.
- Gaining professional skills through a graduate or post-graduate award programme at a university
- Work-related skills gained through training provided to employees by employers which may be:
  - formal and lead to a nationally accredited certificate or diploma
  - structured but not articulated to a formally recognised qualification

- unstructured training provided on-the-job which has no predetermined training plan or organised content.

A wide range of other training or adult education programmes exist in Australia which are job-related to varying degrees. They are provided on a fee-for-service basis by various private (registered or unregistered) training organisations and adult and community education organisations.

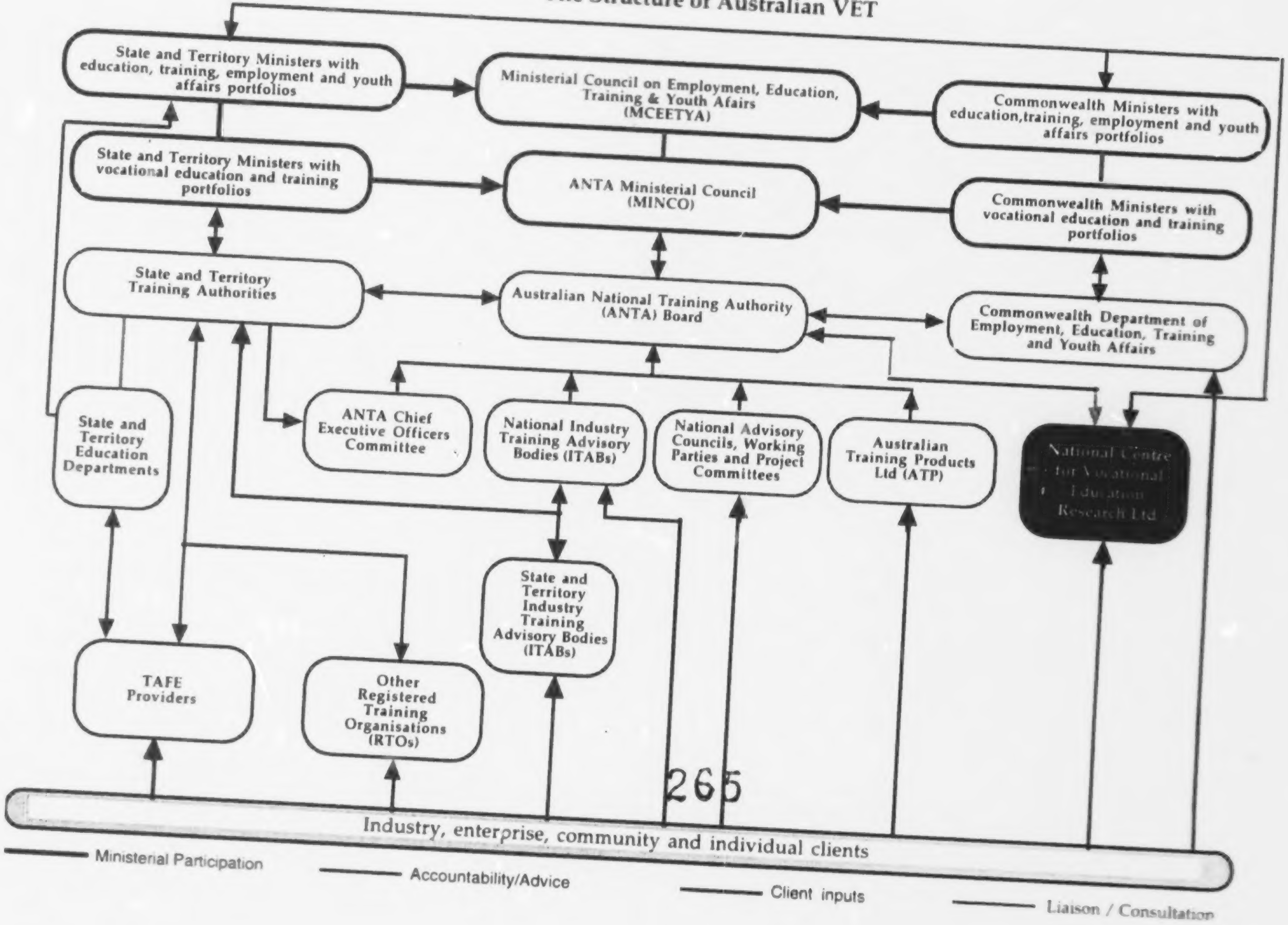
Unlike some SEAMEO member countries (e.g. Indonesia) Australia does not have a system of specialist vocational secondary schools or technical high schools. Several decades ago some parts of Australia did have such a system. Today, however, specific vocational programmes within general secondary schools are becoming increasingly popular.

Not all of the above education and training pathways are considered to be part of the vocational education and training sector in Australia. The vocational education and training sector normally refers to a recognised vocational education and training programme undertaken through a registered training provider. Most vocational education and training programmes are undertaken in a TAFE institute, although private training organisations and adult community education providers are becoming increasingly important providers of VET. Some enterprises, schools and universities are also registered vocational education and training providers, although the majority of schools and universities are not registered providers of formal vocational education and training programmes.

Thus most university programmes, general secondary education and instructional training provided by employers and most programmes provided on a fee-for-service basis by private and community training organisations are not considered part of the formal vocational education and training sector in Australia. Nevertheless, these other skill formation pathways are important in the total development of work-related skills in Australia.

Overall, Australia has a complex vocational education and training system as can be seen from figure 1.

The Structure of Australian VET


State and Territory Ministers with education, training, employment and youth affairs portfolios
Ministerial Council on Employment, Education, Training & Youth Afairs (MCEETYA)
Commonwealth Ministers with education,training, employment and youth affairs portfolios
State and Territory Ministers with vocational education and training portfolios
ANTA Ministerial Council (MINCO)
Commonwealth Ministers with vocational education and training portfolios
State and Territory Training Authorities
Australian National Training Authority (ANTA) Board
Commonwealth Department of Employment, Education, Training and Youth Affairs
State and Territory Education Departments
ANTA Chief Executive Officers Committee
National Industry Training Advisory Bodies (ITABs)
National Advisory Councils, Working Parties and Project Committees
Australian Training Products Ltd (ATP)
National Centre for Vocational Education Research Ltd
State and Territory Industry Training Advisory Bodies (ITABs)
TAFE Providers
Other Registered Training Organisations (RTOs)
Industry, enterprise, community and individual clients
Ministerial Participation
Accountability/Advice
Client inputs
Liaison / Consultation

Funding of vocational education and training

The overall vocational education and training effort in Australia is funded from both government sources (mainly government recurrent funding) and private sources (e.g. companies purchasing training for their employees). Individuals also make a contribution through the payment of fees. The 1997 and 1998 level of public funding of vocational education and training in Australia of $A4.0 billion represented almost 0.8% of total GDP in 1997. Around 30% was provided by the national government, and the remainder by State and Territory (i.e. provincial) governments.

Australian governments spent around 5.7% of GDP on all forms of education and training (i.e. schooling, vocational education and training and universities) in 1994 (Lenahan, Burke and Hing Tong Ma 1998, p.19).

At the provider level, specific allocations are made by government training authorities to TAFE institutes and other public training providers and to a host of community and private training providers to enable them to provide vocational education and training to industry and to students (the 'clients' of the system). Vocational education and training programmes in 1997 were provided by:

- Around 100 TAFE or other-government institutes (such as agricultural colleges and universities providing vocational education and training programmes) operating at some 1,000 separate locations around Australia.
- Some 600 community education centres.
- Almost 1,500 other registered training providers such as private training organisations, schools, business enterprises who provide formal training, special industry training centres, etc.

Increasingly greater amounts of public funding are put up for competitive tendering amongst TAFE, community-based and private training providers. It is important to note that there are over 3,500 registered training organisations in Australia, so not all of them are providing publicly-funded vocational education and training programmes in any one year.

A small but significant group of vocational education and training participants are full-fee paying overseas students, mostly from South-east Asia, who are granted a special immigration visa to study in Australia. These students study in Australia, and on completion of their course return to their home country (see, for example, *Australian vocational education and training statistics 1996-97: Overseas students at-a-glance*).

The Australian Qualifications Framework

In Australia there are six different core vocational education and training qualifications being offered under a new comprehensive national system of education and training qualifications called the Australian Qualifications Framework (AQF). They are shown in table 1. A seventh qualification, the senior secondary certificate, is also offered by some TAFE institutes. In addition, under the AQF a 'statement of attainment' may be issued for partial completion of a full qualification. The AQF was first introduced in 1995 and it is being progressively phased in over a five-year period ending 31 December 1999.

The AQF was designed to provide consistent recognition of the outcomes achieved from education and training across all sectors of senior secondary schooling and universities. The AQF includes recognition of the integration of learning in the workplace with the incorporation of structured training into the system (with apprenticeships and traineeships being Certificates I to IV under the AQF). Moreover, the AQF was designed to provide a clear and rational structure in which an

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increasingly deregulated training market can operate while maintaining credibility within the overall education and training system.

Table 1: The Australian Qualifications Framework (AQF)

Schools sector	*Vocational education and training sector*	*Higher education sector (i.e. university)*
		Doctoral Degree
		Masters Degree
		Graduate Diploma
		Bachelor Degree
	Advanced Diploma	Advanced Diploma
	Diploma	Diploma
	Certificate IV	
	Certificate III	
Senior Secondary	Certificate II	
Certificate of Education	Certificate I	
	Statement of attainment (part-qualification)	

Source: Australian Qualifications Framework Advisory Board 1996

The AQF qualifications can be attained in various ways. These include:

- Through the classroom in a TAFE or other registered vocational education and training provider as a full or part-time student.
- In the workplace through a structured training programme.
- In an industry training centre.
- Through 'off-campus' modes of study such as open or distance learning.
- Through various combinations of the above.

The AQF system in the vocational education and training sector is designed around a set of competency standards that need to be achieved in different training programmes, rather than qualifications being set according to the amount of time taken to undertake a course of study. Thus, different people will take different amounts of time to complete any given qualification. Nevertheless, the typical intensity of each AQF qualification is as follows:

- Certificate I and Certificate II programmes are the equivalent of around half a year of full-time study to complete
- Certificate III and Certificate IV programmes typically take the equivalent of one year of full-time study to complete
- Diploma and Advanced Diploma programmes typically involve the equivalent of two years of full-time study, although some programmes involve the equivalent of three years of full-time study.

Participation in VET

The number of students in publicly funded vocational education and training programmes each year in Australia has grown very strongly over the past decade. Ten years ago under one million people participated in vocational education and training in Australia (table 2). Today, over 1.5 million people undertake publicly-funded vocational education and training programmes. This represents over 12% of the entire Australian population aged 15 to 64 years (i.e. the working age population).

Table 2: The number of vocational education and training students in Australia, 1988 to 1998

	Number in vocational education and training ('000)			
Year (a)	*Males*	*Females*	*Persons*	*Proportion who are female (%)*
1988	503.5	448.0	951.6	47.1
1989	492.7	439.6	932.6	47.1
1990	534.1	432.7	966.8	44.8
1991	541.1	444.8	985.9	45.1
1992	572.1	470.4	1042.5	45.1
1993	606.9	514.5	1121.4	45.9
1994	612.3	519.2	1131.5	45.9
1995	672.2	600.5	1272.7	47.2
1996	706.3	641.1	1347.4	47.6
1997	756.9	701.7	1458.6	48.1
1998	790.7	744.5	1535.2	48.5

(a) Minor changes were made to the collection arrangements for the scope of the series in 1993 and 1994 Moreover, community providers of vocational education and training were included since 1995 and private providers since 1996

(b) Numbers who participated at some time throughout the calendar year

Source: NCVER, 1998a

People can enrol in a vocational education and training programme simply to gain skills from one or more modules (i.e. short courses) or they can undertake a full programme (i.e. a full course) leading to a certificate- or diploma-level qualification.

Most vocational education and training participants in Australia are part-time students. Although the average (in 1997) was 207 hours per student, half of all vocational education and training participants were enrolled in programmes of under 100 hours of training. Only around 10% of Australia's vocational education and training students are undertaking a course as full-time, full-year students. Students over the age of 25 undertake fewer hours per year, on average, than younger students. The proportion of female students in vocational education and training in Australia has now reached almost 50% (table 3).

Table 3: Age and sex of vocational education and training students in Australia, 1997

Characteristic	*Proportion of clients (%)*	*Proportion of total hours of training delivered (%)*	*Average hours per student*
Sex			
Male	51.9	52.6	210
Female	48.1	47.4	204
Total	100.0	100.0	207
Age			
Under 15 years	0.4	0.2	104
15-19 years	19.9	31.2	325
20-24 years	17.9	22.5	260
25-29 years	12.9	11.6	186
30-39 years	22.5	17.9	165
40-49 years	16.6	11.5	144
50-59 years	7.2	3.9	112
60-69 years	1.2	0.6	104
65 years and over	1.3	0.6	96
Total	100.0	100.0	207

The proportion of Australia's vocational education and training students who are of school age, early secondary school leavers or entry-level trainees is relatively small. Only 20% of all vocational education and training students are under 20 years of age, although they account for one-third of the total training hours delivered (table 3).

Most vocational education and training participants are adults who are training or re-training for job-related purposes. One quarter of all vocational education and training participants in Australia are over 40 years of age.

In fact, in Australia a vocational education and training student is far more likely to be an adult who is already employed and upgrading his or her job skills, than a young person who is studying in vocational education and training to gain an entry level vocational qualification.

The overall rate of participation in vocational education and training in Australia is high. As mentioned earlier some 12% of the entire 15 to 64 year old population participated in vocational education and training in 1997. In terms of the different age groups, the participation rates in 1997 were:

- nearly 20% for 15 to 19 year olds
- 17% for 20 to 24 year olds
- nearly 7% for 25 to 64 year olds.

These figures do not include participation in other forms of education such as in schools and universities, as discussed earlier.

Australia is a highly urbanised country, yet around one-third of vocational education and training participants are undertaking their vocational education and training programme outside of a major metropolitan area (table 4). The fact that most towns in Australia have a TAFE institute campus, and the availability of correspondence and other distance learning options, facilitates this.

However, it is found that students in rural and remote areas, on average, undertake fewer hours of training per year than their counterparts in the cities.

Australia has progressively improved its vocational education and training delivery to indigenous people, migrants and people whose first language is not English, to the point where such groups are equitably represented in the vocational education and training student population. However, people with disabilities and handicaps are still under-represented.

Table 4: Geographic region of vocational education and training students in Australia, 1997

Characteristic	*Proportion of clients (%)*	*Proportion of total hours of training delivered (%)*	*Average hours per student*
Geographic region			
Capital city	58.6	61.7	218
Other metropolitan	7.1	7.5	219
Rural	29.6	25.1	176
Remote	3.5	2.7	160
Outside Australia	1.2	3.0	518
Total	100.0	100.0	207
Total ('000)	**1458.6**	**302,199.6**	207

Source: NCVER 1998a

The amount and type of vocational education and training provided

The total amount of publicly-funded training provided by the vocational education and training sector in Australia is shown in Table5. The key features in 1997 were:

- It involved almost 1.5 million students taking vocational education and training programmes.
- These students had over 1.8 million course enrolments during the year, and between them they enrolled in almost 10 million vocational education and training subjects.
- Over 300 million hours of training were delivered by the vocational education and training sector.

Table 5: Indicators of vocational education and training activity in Australia, 1997

Indicator	*Type of registered training organisation*			
	TAFE and other government	*Community education providers*	*Private providers and other*	*Total of all providers*
Number of students				
Number ('000)	1140.8	225.2	92.6	1458.6
Proportion (%)	78.2	15.4	6.4	100.0
Course enrolments (a)				
Number ('000)	1451.1	291.6	99.6	1844.2
Proportion (%)	78.9	15.8	5.4	100.0
Module enrolments				
Number ('000)	8738.7	365.6	776.5	9880.7
Proportion (%)	88.4	3.7	7.9	100.0
Training hours delivered				
Number (million)	272.0	11.0	19.2	302.2
Proportion (%)	90.0	3.6	6.4	100.0

Note (a): The number of course enrolments is greater than the number of students because some students undertake more than one course within a calendar year.
Source: NCVER 1998a

Some two-thirds of all training hours provided by vocational education and training in Australia were in just four fields of study (table 6):

- Business, administration and economics courses account for almost 20% of total training hours in 1997.
- VET multi-field education (i.e. general vocational education, languages and preparatory courses) with just over 17% of total training hours.
- Engineering and surveying courses with just under 17% of total vocational education and training hours in 1997.
- Services, tourism and hospitality and transportation courses accounted for 12% of total training hours delivered in 1997.

Somewhat similar patterns are observed when training activity is considered in terms of the subject enrolments in each area of learning (table 6). One-fifth of all module enrolments are in the administration, business economics and law area. The other important areas of learning are mathematics and computing (13.2%), engineering and processing (12.4%) and social, education and employment skills (12.3%).

Table 6: The amount of training provided in each field of study and area of learning in Australia, 1997

Course field of study (a)	*Proportion of training hours provided (%)*	*Subject area of learning* (b)	*Proportion of total subject enrolments (%)*
Animal husbandry, land and marine resources	4.6	Agriculture and renewable resources	4.2
Architecture and building	6.5	Administration, business, economics and law	20.2
Arts, humanities and social sciences	8.2	Building and environment	4.5
Business administration and economics	19.3	Education	1.3
Education	1.3	Engineering and processing	12.4
Engineering and surveying	16.8	Health sciences	8.4
Health and community services	8.5	Hospitality, tourism and personnel services	9.5
Law and legal studies	0.6	Humanities	7.2
Science	4.5	Mathematics and computing	13.2
Veterinary science and animal care	0.2	Sciences	2.6
Services, hospitality and transport	12.1	Social, educational and employment skills	12.3
VET multi-field education	17.4	Social studies	1.2
Other	0.1	Visual and performing arts	3.0
Total (%)	100.0	Total (%)	100.0
Total hours (million)	**302.2**	**Total subject enrolments ('000)**	**9880.7**

Note (a): field of study is a classification which describes the major subject matter of the course undertaken.
Note (b): area of learning is a classification which describes the major content of each subject undertaken, independent of the course of which it is a part.
Source: NCVER 1998

The overall pattern of vocational education and training taken in Australia can be summarised by reference to the information in table 7. Most enrolments are in the trades and skilled training area.

The important point about the information in table 7 is that only a little over half of all course enrolments in 1996 were in programmes leading to a qualification. However, a further 16.5% of course enrolments were in programmes leading to statements of attainment (issued to those partially completing a qualification and indicating the units of competency achieved under nationally endorsed competency standards) or certificates of competency or proficiency, etc.

The remaining enrolments (26.8% in 1996) were in non-award courses and courses not leading to a formally recognised qualification (or not leading to the issue of a statement of attainment, etc).

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Table 7: Course enrolments by qualification level in Australia, 1996

Qualifications	*Number of enrolments ('000)*	*Proportion of total enrolments (%)*
Full qualifications(a) still under old system		
Diploma	7.6	0.4
Associate Diploma	107.6	6.0
Advanced Certificate – post trade	9.7	0.6
Advanced Certificate – other	68.2	3.8
Certificate – trade	85.2	4.8
Certificate – n.e.c.	273.4	15.3
Sub-total in old system	551.7	30.9
Full qualifications (a) under AQF framework		
Advanced Diploma	28.4	1.6
Diploma	73.2	4.1
Certificate IV	69.0	3.9
Certificate III	130.7	7.3
Certificate II	99.0	5.5
Certificate I	54.8	3.1
Senior Secondary	6.2	0.3
Sub-total AQF	461.3	25.8
Sub-qualifications:		
Statements of Attainment	269.6	15.1
Certificates of Competency	20.0	1.1
Certificates of Proficiency	1.8	0.1
Endorsements to Certificates	3.3	0.2
Sub-total statements, etc.	294.7	16.5
Non-award/other	478.6	26.8
Total course enrolments	1786.3	100.0

(a) Qualifications awarded or being sought
Source: Robinson 1998a

Outputs and outcomes of VET

Some 65% of all modules undertaken in Australia's vocational education and training system in 1997 were completed successfully as shown in table 8. This means that a pass or credit for prior learning or studies done elsewhere was achieved in over 90% of cases where modules were both completed and assessed.

The information in table 8 also shows that only 25% of all module enrolments culminated in a fail. Some 20% were not assessed or were enrolments in modules that continued past the end of the 1997 calendar year.

Table 8: Assessment outcomes from participation in vocational education and training in Australia, 1997

Module Outcomes	*Proportion of module enrolments (%)*
Assessed and successful outcome gained	
Student assessed - pass	59.2
Status or credit granted through recognition of prior learning	2.3
Credit transfer granted for subjects completed elsewhere	3.3
Total successful	64.8
Assessed and successful outcome not gained	
Student assessed - fail	4.9
Student assessed - result withheld	2.2
Total unsuccessful	6.1
Not assessed	
Continuing in studies	5.0
Satisfactorily completed class hours but not assessed	5.7
Withdrew	8.8
Total not assessed	19.5
Outcome not reported	8.7
Total modules undertaken (%)	100.0
Total modules undertaken ('000)	9880.7

Source: NCVER 1998a

Another facet of the outputs from vocational education and training in Australia is the number of qualifications being issued. The number of qualifications reported as being issued in 1997 is shown in table 9.

Of the full vocational education and training qualifications awarded in Australia:

- only 15% were Diplomas or Advanced Diplomas
- some 17% were Certificate IV level qualifications
- some 40% were Certificate III qualifications
- the remaining 28% were Certificate I and II level qualifications

Table 9: Vocational education and training qualifications issued in Australia, 1997

Type of awards issued (a)	*Number ('000)*	*Proportion (%)*
Full qualifications awarded		
Diplomas and Advanced Diplomas	23.8	7.5
AQF Certificate IV and equivalent	27.2	8.6
AQF Certificate III and equivalent	68.5	21.6
AQF Certificate I or II and equivalent	36.5	11.5
Total Full Qualifications	156.0	49.2
Sub-qualification level		
Other certificates and endorsements	12.7	3.9
Statements of attainment	65.8	20.7
Statements from courses of less than 50 hours duration	3.3	26.2
Total sub-qualification certificates/statements	161.4	50.8
Total awards issued	317.4	100.0

(a) Awards reported as being issued
Source: NCVER 1998a

It is important to note that the above qualifications data are incomplete because not all awards issued are reported or because not everyone who is eligible for an award is issued with one. Arrangements to improve awarding practices and reporting are currently under review in Australia.

The most important outcome from participation in vocational education and training is an employment outcome. Moreover, most vocational education and training students in Australia cite a job-related reason as the main reason for undertaking their course. For example the results of NCVER's 1997 TAFE Graduate Destination Survey show that the main reasons graduates gave for undertaking a TAFE course in 1996 were:

- to get a job or start a business (28.8%)
- for interest or personal development (13.6%)
- to get extra skills for an existing job (13.1%)
- to try for a different career (12.3%)
- to get a better job or promotion (12.0%)
- it was a requirement of their job (10.5%)
- to get into another course of study (6.4%)
- other reasons (2.5%)

The same survey traced the employment status of graduates as at May 1997, who had earlier undertaken their vocational education and training study, and graduated sometime during 1996. As shown in table 10 some 71% of graduates had obtained employment by 30 May 1997. Most were in full-time jobs. The employment outcomes were better for males, with 78% having jobs, than for females with only 66% having jobs.

Table 10: Employment outcomes of TAFE graduates in Australia, 1997

Labour Force Status at 30th May 1997	*TAFE Graduates who graduated during 1996 (%)*		
	Males	*Females*	*Total*
Employed			
Full Time	63.4	34.8	47.3
Part Time	10.6	26.8	19.7
Employed but type not stated	3.7	4.2	4.0
Total	77.7	65.8	71.0
Unemployed			
Seeking full-time work	10.8	10.3	10.5
Seeking part-time work	2.4	6.3	4.6
Total	13.2	16.6	15.1
Not in the labour force	9.0	17.5	13.8
TOTAL	**100.0**	**100.0**	**100.0**

Source: NCVER 1997a

The survey also shows some 15% were unemployed and looking for full-time or part-time work, and just under 14% were not in the labour force (i.e. neither employed or actively looking for a job).

Of course not all graduates were unemployed at the time of commencing their course. Some 36% had a full-time job before commencing their course, noting that rate rose to over 47% after graduation. Similarly, some 25% had a part-time job before commencing their courses. The part-time employment rate fell to 20% after graduation.

These results show there are two key aspects of the employment outcomes being obtained from vocational education and training in Australia. These are:

- A significant improvement in overall employment outcomes arises from successfully completing a significant vocational education and training course.
- An even greater conversion from part-time to full-time work arises as a result of such vocational education and training study.

Employer views of vocational education and training in Australia

Another feature of the outcomes from vocational education and training in Australia concerns the satisfaction of employers with the training provided, and the impact that such training has had on business productivity.

As shown in table 11, some 78% of all employers of vocational education and training graduates in Australia are satisfied or very satisfied with the vocational education and training provided. Large enterprises with 100 or more employees are slightly more satisfied than are employers running medium or small-sized enterprises. Yet the level of satisfaction varies only marginally with the size of the business.

Table 11: Employer satisfaction with vocational education and training in Australia, 1997

Satisfied or very satisfied with vocational education and training provided Number of employees	*Proportion of employers (%)*
Large enterprises (100 or more employees)	84
Medium enterprises (20 to 99 employees)	80
Small enterprises (1 to 19 employees)	77
All employers	78

Source: NCVER 1997b

Another critical finding from the NCVER's Employer Satisfaction Survey is that nearly three quarters of employers in Australia who have employed a vocational education and training graduate within the last two years have reported an increase in productivity that they attribute to the skills received from VET.

Employer investment in training in Australia

Over 60% of all employers in Australia reported the provision of some kind of structured or unstructured training to their employees during the year ending February 1997 (table 12). According to the Australian Bureau of Statistics (ABS) structured training refers to:

> *... all training activities which have a predetermined plan and format designed to develop employment-related skills and competencies. It consists of periods of instruction, or a combination of instruction and monitored practical work. The instruction can take the form of workshops, demonstration sessions or monitored self-paced training packages. It can also include structured on-the-job training.*
> (ABS 1998, p.66).

On the other hand, unstructured training refers to:

> *... training activity that does not have a specific content or predetermined plan. It includes unplanned training that is provided as the need arises and training activity that is not monitored such as self training through reading manuals or using self-training computer packages.*
> (ABS 1998, p.66).

Table 12: Employer provision of structured training in the last 12 months by enterprise size in Australia, 1997

Enterprise size	*Proportion of employers who provided structured and/or unstructured training (%)*	*Proportion of employers who provided structured training (%)*
Small business sector		
1-4 employees	45	20
5-9 employees	74	43
10-19 employees	86	60
All small business (1-19 employees)	57	30
Medium enterprises		
20-99 employees	94	71
Large enterprises		
100 or more employees	99	94
All employers	61	35

Source: Australian Bureau of Statistics 1998

The provision of structured or unstructured training by employers is widespread in medium and large enterprises in Australia. Virtually all large enterprises (i.e. with more than 100 employees) provide some kind of training to the workforce, and some 94 per cent of medium-sized enterprises (i.e. with 20-99 employees) do likewise (as shown in table 11). However, these enterprises account for only 10% of Australia's enterprises (large enterprises being 2% of all enterprises and medium-sized enterprises being 8%).

The small business sector (i.e. one to 19 employees) accounts for some 90% of all enterprises in Australia. In this sector only a little over half of all small business reported an involvement in some kind of structured or unstructured training during the year ending February 1997 (table 12).

The smaller the business, the less likely it is that training (either structured or unstructured) will be provided. As shown in table 12 only 45% of employers in very small enterprises (with a workforce of 1 to 4 people) report an involvement in training. These enterprises make up 63% of the small business sector.

Some three-quarters of small enterprises with five to nine employees provide training to their workforce. These enterprises account for 26% of the small business sector (see table 12).

Only 14% of enterprises in the small business sector have a workforce in the 10 to 19 employee range, and 86% of these enterprises provide training to their employees (see table 12).

In terms of the provision of some kind of structured or unstructured training a widespread training culture can be said to exist in medium to large-sized enterprises in Australia. However, the pattern is rather different in the small business sector, which accounts for 90% of all Australia's enterprises, particularly in those enterprises with fewer than five employees, which dominate the sector.

The provision of structured training by employers gives a better indication of the level of commitment to training amongst Australia's enterprises. Structured training represents a significantly more intensive level of skill formation activity, than simply considering all training activity which includes unstructured training.

Some 35% of employers provided structured training to their employees in the 12 months ending February 1997 (table 12). However, this masks the very different patterns of structured training provision in different sized enterprises. The overwhelming majority of large enterprises (94%) not only provide training but also provide structured training to their employees. This indicates a substantial commitment to training in Australia, by the corporate sector, and among large public sector organisations. Similarly over 70% of all medium-sized enterprises provide structured training to their employees.

Only 30% of small business enterprises are involved in providing structured training to their employees. Considerable variation occurs within the small business sector itself, with only 20% of enterprises with one to four employees being involved in structured training, whereas 60% of enterprises with 10 to 19 employees provide structured training to their employees (table 12).

There are also variations across industries (table 13):

- The Government administration and defence industry stands out as one where virtually all enterprises provide structured or unstructured training to their employees.
- Other industries with a much better than average proportion of enterprises providing training are electricity, gas and water; education; and personal and other services.

- Industries which have proportions of enterprises providing training that are near or just above the Australia-wide average for all industries are manufacturing; health and community services; finance and insurance; wholesale trade; retail trade; and property and business services.
- Those industries well below the industry average are culture and recreational services; mining; communication services; and accommodation, cafes and restaurants.
- The Transport and Storage and Construction industries are the only industries where fewer than half of all enterprises provide structured or unstructured training to their employees.

These variations suggest some clear patterns concerning industry's commitment to training and a training culture. Those industries with a high proportion of large enterprises or public sector enterprises appear to have an 'ingrained training culture'. On the other hand there appears to be a much lower commitment to training in industries with a high proportion of small firms or where there are higher proportions of casual or sub-contracted labour.

Table 13: Employers in Australia providing structured and/or unstructured training in the last 12 months, by industry, 1997

Industry	*Employers providing training (%)*	*Employers not providing training (%)*	*All employers (%)*
Mining	54	46	100
Manufacturing	68	32	100
Electricity, gas and water	87	13	100
Construction	47	53	100
Wholesale trade	61	39	100
Retail trade	60	40	100
Accommodation, cafes and restaurants	55	45	100
Transport and storage	43	57	100
Communication services	54	46	100
Finance and insurance	68	32	100
Property and business services	60	40	100
Government, administration and defence	99	1	100
Education	76	24	100
Health and community services	68	32	100
Cultural and recreational services	50	50	100
Personal and other services	78	22	100
All employers	61	39	100

Source: Australian Bureau of Statistics 1998

Turning to employer expenditure on training employers in Australia spent $A1178.8 million on structured training during the 1996 September quarter as shown in table 14. These results are from ABS surveys of employers' training expenditure patterns for the period July to September 1996. Full year training expenditure figures are not available. However, if we extrapolate the survey results to the whole of 1996, then some $A4.7 billion was spent by employers on structured training in 1996.

Table 14: The components of employer expenditure on structured training in Australia, September quarter 1996

Item	*Actual ($A million)*	*Proportion (%)*
Employee's wages and salaries for time receiving training	549.2	46.6
Cost of wages and salaries of in-house trainers	271.9	23.1
Fees paid to consultants and other institutions	204.2	17.3
Other expenditure such as training materials, equipment, travel, accommodation and meals, training venues, payments to industry training bodies	153.4	13.0
Total structured training expenditure	**1178.8**	**100.0**

Source: Australian Bureau of Statistics 1997

Just under 47% of the total expenditure on structured training by employers was for the wages and salaries of their employees for the time they were receiving structured training. The cost of paying fees to trainers accounted for a further 40% of the total spent by employers on structured training. The remaining 13% of the total cost of structured training met by employers was for other items such as training equipment and materials, training venues, accommodation and travel (table 14).

In terms of total training expenditure, almost 70% was spent on training conducted in-house. Only 30% was conducted by external consultants or training institutions such as Technical and Further Education (TAFE) institutes.

This expenditure provided an average of $A185 per employee being sent on structured training by employers during the July to September 1996 period, accounting for an average of almost 5 hours of structured training per employee during the three-month period (table 15). The $A1.179 billion spent by employers on structured training during the September quarter of 1996 amounted to 2.5% of the total payroll for the period.

Table 15: Measures of employer provision of structured training in Australia, September quarter 1996

Indicator	*Amount*
Total training expenditure	$A1.179 billion
Expenditure per employee	$A185
Training per employee	4.9 hours
Employers providing structured training	17.8%
Proportion of payroll spent on structured training	2.5%

Source: Australian Bureau of Statistics 1997

The really critical issue with respect to the patterns of employer expenditure on structured training is the different patterns between small, medium and large employers (table 16). Large companies and public sector agencies (with at least 100 employees) spend almost four times as much per employee on structured training than do small enterprises (with less than 20 employees). Large employers spent nearly twice as much per employee on training than medium-sized organisations (with 10 to 99 employees).

Only 13% of small employers spent money on training for their employees during the September quarter of 1996, whereas 50% of medium-sized employers and nearly 90% of all large employers provided expenditure for structured training during the September quarter of 1996 (table 16).

Table 16: Measures of employer expenditure on structured training by enterprise size in Australia, September quarter 1996

Indicator	*Less than 20 employees*	*20-99 employees*	*100 or more employees*	*All employers*
Total training expenditure ($A million)	115.0	168.4	895.4	1178.8
Expenditure per employee ($)	71	136	256	185
Training per employee (hours)	2.4	3.8	6.5	4.9
Proportion of employers providing training (%)	13.4	50.5	88.3	17.8
Proportion of total payroll spent on structured training (%)	1.2	1.9	3.2	2.5

Source: Australian Bureau of Statistics 1997

The major organisations involved in vocational education and training, and their roles

The national system is a joint responsibility of the national (i.e. Commonwealth) government and the eight State and Territory (i.e. provincial) governments. The major organisations are listed in table 17.

The key national decision-making body is a council of ministers responsible for training from the national and State and Territory governments (known as the 'ANTA ministerial council' or MINCO). This ministerial council also takes account of the decisions of a larger national ministerial council, namely, the Ministerial Council for Employment, Education, Training and Youth Affairs (MCEETYA), which frames national policy across the wider set of issues in the sphere of employment, education, training and youth affairs.

The key national agency with responsibility for advising on national planning, funding and strategic objectives to achieve a national focus for vocational education and training in Australia is the Australian National Training Authority (ANTA). ANTA is a Commonwealth statutory authority which is governed by an industry board.

The Commonwealth Department of Employment, Education, Training and Youth Affairs and each State and Territory training authority have prime policy and operational responsibilities to implement nationally agreed vocational education and training decisions in their respective jurisdictions.

Australia has a highly developed system of industry training advisory bodies (ITABs) operating at both the national and State and Territory levels. ITABs provide advice on key training issues within a particular industry, and their boards are comprised of industry, business and labour union representatives. National ITABs receive financial support from ANTA to do a variety of things, the most important being to participate in national planning of the vocational education and training system and to develop national industry standards for training.

Table 17: Major organisations in the Australian vocational education and training system

Body or organisation	*Acronym*	*Role and responsibilities*
Ministerial Council for Employment, Education, Training and Youth Affairs	MCEETYA	National policy for all of employment, education, training and youth affairs
Minsiterial Council for Vocational Education and Training	MINCO	National policy for vocational education and training
Department of Education, Training and Youth Affairs	DETYA	National policy advice, funding, strategic planning etc for education, training and youth affairs
Australian National Training Authority	ANTA	National policy advice, strategic planning etc for vocational education and training
State and Territory training boards and training authorities (eight)	Various	State/territory policy, planning, system management etc for vocational education and training
National industry training advisory boards	National ITABs	Identify and advise on training needs nationally for specific industries
State/territory industry training advisory boards	State/Territory ITABs	Identify and advise on training needs at state/territory level for specific industries
Australian Qualifications Framework Advisory Board	AQFAB	Maintains and reviews the Australian Qualifications Framework (AQF)
Australian Training Products Limited	ATP	Develops and publishes national training products and materials
National Centre for Vocational Education Research Ltd	NCVER	Key agency for vocational education and training research, evaluation, information and statistics at all levels

The National Centre for Vocational Education Research is the other major national government vocational education and training body in Australia. NCVER has responsibilities for developing and implementing Australia's national vocational education and training research and evaluation effort, together with the national collection and reporting of statistical and other information about vocational education and training.

Australia's governments have also established a non-profit company, called Australian Training Products Limited, to develop and publish national training products and materials. There is also an array of other, government-initiated advisory bodies and committees involved in the vocational education and training sector at both national and State and Territory levels.

Importantly, each State and Territory has a State training authority which is responsible for:

- On-going management of government providers and registration of non-government providers in vocational education and training.
- Implementation of the national recognition framework, which is progressively replacing the former national curriculum arrangements.
- Management of the State or Territory training profile (STP).
- Allocation of funds to vocational education and training providers to meet targets specified in the State or Territory training profile and ANTA 'growth-through-efficiency' targets.
- Collecting and reporting information under agreed national reporting arrangements.

An important recent trend has been the combining of State and Territory departments for vocational education and training with State and Territory education departments, as part of the programme to promote closer links between secondary education and vocational education and training and to deliver programmes which combine secondary education and vocational education and training to students who are still at school.

The providers of vocational education and training

In the past, vocational education and training in Australia was delivered exclusively by Technical and Further Education (TAFE) institutes, with overall strategic directions, planning and funding provided by State and Territory training authorities. In 1992 the Australian National Training Authority was established to ensure greater co-ordination of policy and planning in vocational education and training and to co-ordinate the distribution of national funding to States and Territories.

In Australia, vocational education and training programmes are now delivered by a wide range of providers in both the government and private sectors, as shown below (table 18).

Table 18: Providers of vocational education and training in Australia, by sector

Government sector	*Private sector*
Technical and Further Education (TAFE) institutes	Private providers not in receipt of government funds
Agricultural colleges	Private business colleges
Some higher education institutions	Enterprises providing training to their employees
Multi-sector providers and campuses	Suppliers providing training in product use
Secondary schools	Unregistered community providers
Registered community providers	
Aboriginal education providers	
Private providers under contract to governments	

Each year, about 12% of the population of 15 to 64 year olds in Australia undertakes some form of vocational or technical education and training with providers in the government sector. In addition, an unknown number of individuals undertake training with private training providers. In 1997 the training undertaken with government-funded providers was equivalent to about 300 million hours of classroom time by individuals. Total accrual-based operating expenditures by the government sector in 1997 and 1998 was around $A4 billion, and the capital assets of the government-funded vocational education and training system were valued at over $A5 billion. Equivalent figures for the private vocational education and training sector are not available.

Important features of Australia's vocational education and training system

A clear national policy for vocational education and training

The Australian experience suggests that having a clear national policy statement is an essential ingredient in any consistent national development of a vocational education and training system. Agreement was recently reached among Australian ministers for training over a new national policy statement for the five years to 2003. The policy issued by the Australian National Training Authority (ANTA) — *A bridge to the future: Australia's national strategy for vocational education and training 1998-2003* — outlines:

- a national mission statement for the vocational education and training sector
- five key national objectives for vocational education and training in Australia to underpin the mission statement
- a set of national strategies and agreed processes to achieve each of the objectives
- national monitoring arrangements, including the adoption of seven key performance measures through which to gauge progress in implementing the national vocational education and training policy (ANTA 1998a).

This is the third such national vocational education and training strategy in Australia. However, the strategy document itself is not the key issue. Rather, it is the process embarked upon to gain widespread consensus about what the key objectives for vocational education and training that is important.

Essential elements of any successful national framework for TVET need to include:

- widespread consultations about the appropriate direction to take that goes well beyond discussions amongst various government officials or colleges and other training providers
- extensive discussions with the clients of the training system, these being industry representatives and students and trainees
- a consideration of the key issues that are separate from the development of other education policies for schooling or universities so that the work-related nature of TVET can be kept fully prominent
- the framing of national objectives for vocational education and training that are capable of being measured/monitored so that progress can be reviewed.

Moving towards lifelong learning

Australia has developed a vocational education and training system which is very broad in its coverage and scope. Nearly two-thirds of those who enrol in vocational education and training in Australia each year are now over 25 years of age (table 2). Moreover, most enterprises in Australia with more than 10 employees provide some kind of training to their employees. While there is still much to be done in Australia to improve the scope, coverage, quality and relevance of vocational education and training, the notion that skill learning and re-learning must continue throughout one's lifetime is gradually becoming an ingrained feature of Australia's economic, social and cultural landscape.

In Australia it has been recognised that it is no longer sufficient to have a vocational education and training system which is focussed mainly on preparation of youth for entry to the workforce. There are two key reasons for this:

- On the *demand* side, technological change and other changes stemming from globalisation of economies around the world are now so rapid that people cannot expect to work in the same occupation or industry over a lifetime. Even within a work area changes are occurring continuously.
- On the *supply* side, the average age of the workforce, as in most countries, is increasing. There will be relatively fewer young people in the workforce than in the past. Therefore, skill formation policies must also be focussed on the adult workforce.

Developing advanced and high level skills training

It has been shown in earlier sections that a feature of the Australian vocational education and training system is the diversity and comprehensiveness of its coverage, from short programmes of training through to intensive advanced programmes across a wide range of skill areas. The range and diversity of Australia's vocational education and training system is clearly reflected in the statistics on participation and participation patterns previously discussed.

Over one-third of the total hours of training delivery each year are advanced level courses (i.e. AQF Diploma, Advanced Diploma and Certificate IV programmes). Also, a majority of apprentices and trainees undertake a programme at AQF level III or higher. Advanced and high-level skills training is particularly important for high-technology industries.

Competency-based training

Australia has been developing and implementing a competency-based training system for the past decade or more. Competency-based training is probably the most critical feature that distinguishes the Australian vocational education and training from other TVET systems in the Asia Pacific region.

Competency-based training is aimed at trying to make vocational education and training programmes much more relevant to meeting the needs of industry and Australia's enterprises.

Under the Australian approach the industry training organisation network, consisting of Industry Training Advisory Bodies (ITABs), has been heavily involved in:

- identification of the competencies required by industry from formal training at different levels
- developing industry competency standards for each training programme with a system of national training packages for each industry
- identifying the qualifications that are included in each industry's national training package
- developing assessment guidelines for assessing whether or not required competencies specified in national training packages have been achieved by each trainee.

In Australia there has been widespread agreement with the move to make vocational education and training provision more relevant to industry needs, rather than continuing with the previous system where training providers largely determined the content of vocational education and training courses.

However, the introduction of competency-based training has not been without controversy, which is to be expected with such a major reform. Certainly the success with which competency-based training has been introduced to date has varied considerably across the sector.

Perhaps the most controversial element has been to shift the focus so heavily away from curriculum content and standard amounts of time in each level of training, towards only assessment of the competencies required in each case.

Some have argued that this is leading to short-term focus on specific tasks and skills relating to existing jobs, with insufficient emphasis on broader vocational knowledge and the general skills that are required in the continuous shift in technological knowledge, particularly in emerging technologically based industries and occupations.

There have also been criticisms that the development of competency-based training in Australia has been overly complex and focussed on too much detail being prescribed from the national level, with industry bureaucracies replacing the government bureaucracies that once existed.

Incorporation of a focus on the competencies needed in different areas of the labour market is really an essential feature of any world class training system. However, care is needed to ensure general skills and more general vocational knowledge is also included, where appropriate, in vocational programmes so that training is not only concerned with the short-term and immediate needs of industry.

Longer term industry and national considerations are even more important. Those skills that will improve the future job mobility of individuals as nation's continually adjust to the unrelenting pressures for structural and technological change are more important now than at any time in the past.

Occupational skills maps and skills standards: occupational skills maps and skill standards of the kind recently introduced in the Philippines, for example, are not part of all vocational education and training programmes in Australia but may be used in some industries or occupations where this approach is considered appropriate. Therefore, the use of occupational skills maps and skills standards is based on need and appropriateness in specific situations and is not formally part of all vocational education and training activity. None-the-less, there are clear parallels between occupational skills maps and skills standards on the one hand, and the units and elements of competency, and associated standards, which are central components of the qualifications specified in national training packages, on the other.

The development of an industry led training sector

Notwithstanding the above discussion, the development of new ways to ensure the skills being developed in training programmes are in fact highly relevant to existing and future needs of industry is an essential core feature of any effective training system

Australia has embarked upon developing an industry led vocational education and training system of several levels. These include:

- ANTA being established with an industry board in the early 1990's to promote the national development of Australia's vocational education and training sector
- each State/Territory training authority has a high-level industry-based training board
- the full incorporation of a wide array of ITABs across all industries and States and Territories into the process of developing industry standards for the competencies required by each industry at each level of training
- much more recently, the encouragement of TAFE institutes and local training providers to work directly with local employers and industries to provide training programmes that more directly meet their needs.

The latter is currently the least developed area in Australia, which probably offers the best prospects of further developing a system which better meets employer needs, and which provides individuals with vocational education and training programmes that will maximise their job prospects in the future.

This needs to be complemented with measures to encourage greater industry investment in training (see Robinson 1998b).

Flexible delivery and the modularisation of training delivery

Australia has developed a modularised training system. In 1997:

- some 1.46 million people enrolled in one or more publicly funded vocational education and training courses or programmes
- this amounted to 1.84 million courses

- it is involved enrolment in 9.88 million modules and the provision of over 300 million hours of training
- but only 55% of enrolments were in programmes leading immediately to a Diploma or Certificate qualification.

The modularisation of vocational education and training programmes involves breaking up longer courses into shorter programmes (such as subjects) that are capable of assessment as each element or subject is completed. This has promoted the enrolment of a more diverse range of students in VET, particularly adults who are already employed. Modules have encouraged people to take shorter bouts of training to meet a particular skill acquisition need, without requiring them to immediately enrol in a full vocational education and training course leading to a qualification.

More work is needed in Australia to make sure all publicly funded training is nevertheless capable of articulation to one or more full qualifications programmes, should the participant decide to do further vocational education and training modules in the future. Similar better mechanisms to record the training already successfully completed, such as the development of a national skills passport system, also needs to be further explored.

Australia's vocational education and training system is based on the concept of flexible delivery of training. The various training pathways described in section 4 of this report were developed historically to:

- ensure people from rural and remote areas in Australia could gain equitable access to vocational education and training programmes
- encourage more adults needing to upgrade skills to undertake vocational education and training by providing more part-time, night time and weekend, and alternate open learning options to participate in training
- provide alternative learning options to some disadvantaged groups of Australians, such as indigenous people, people with special learning needs and people with different language requirements.

More recently, the focus has also been on ensuring that there are more work-based and non-classroom pathways for vocational education and training to ensure the skills being gained are more relevant to industry's needs.

These policies have had great success in Australia. Equitable vocational education and training participation is now largely occurring between rural and urban Australia and amongst different ethnic groups. More needs to be done, however, to improve vocational education and training access to people with disabilities.

Such policies could have particular relevance to Indonesia given the geographic and dispersion of the nation, and the different ethnic groups within Indonesia.

Establishing competition among training providers

Australia has adopted a policy of increasing competition amongst training providers. Increasing amounts of funding, that was once exclusively allocated to TAFE institutes and other public training providers, have been made available for competitive tendering. By 1997:

- nearly 17% of vocational education and training clients were enrolled with non-TAFE providers
- although 95% of the total training hours delivered were still done so by TAFE.

Not surprisingly, such a policy has been controversial. The benefits have been:

- a greater choice of training provider for industry and individual clients
- the development of specialist private training providers in new areas that were previously under-serviced
- competitive efficiencies leading to lower unit costs in some cases
- the development of a competitive environment with a much greater focus on meeting customer needs.

However, some have argued that competition has lead to a reduction in quality because of its focus on cost of delivery, and dissipation of funds that were once directed to the enhancement of the public TAFE system.

The impact of development of a training market in Australia is documented in detail in the book *The market for vocational education and training,* (Robinson and Kenyon 1998).

The key issue is that such policies have produced more focus on the clients of training, which is essential. The Australian experience is also that considerable reform in this area can be achieved by opening up relatively small amounts of funding to the competitive process. It is important also to ensure the continuation of a high quality public training system.

A strong system of public training institutions

As mentioned above there have been relatively recent moves in Australia to develop competition among training providers and to foster the growth of private training providers so that the clients of training can have greater choice in where they obtain their training.

Notwithstanding these developments, the hallmark of the Australian system of vocational education and training over the past 30 years has been a policy by successive governments to establish and develop a comprehensive system of public TAFE colleges and institutes across the nation. The overwhelming majority of publicly funded vocational education and training is provided through the 100 or so TAFE institutes and other government providers in around 1000 campuses across Australia.

Virtually every town of any size in Australia has a TAFE institute campus or annex. Where such local facilities are not available many TAFE courses can be undertaken by correspondence or some other distance learning mode. It has been shown that participation rates in rural and remote parts of Australia are at or above the rates for capital city and other metropolitan areas (NCVER 1999).

Australia's current vocational education and training system, involving a very diverse offering of vocational education and training at different levels to such a high proportion of the total population, would simply not be possible without a strong system of public TAFE institutes and other public vocational education and training providers.

Of course, there is still more to be done to ensure that vocational education and training providers, including TAFE, are even more responsive to client needs than is currently the case.

A framework for the national recognition of vocational education and training

A key development in the Australian vocational education and training system has been the adoption of the Australian Recognition Framework (ARF).

The ARF Framework:

- is a comprehensive approach to the national recognition of vocational education and training across all States and Territories of Australia
- involves the national registration and quality assurance of training organisations seeking to:
    - delivery training
    - assess competency outcomes
    - issue vocational education and training qualifications under the Australian Qualification Framework (AQF).

Organisations can be registered under the ARF to be able to operate in two areas:

- first, the provision of training delivery, assessment and the issuing of nationally recognised AQF qualifications
- second, the provision of skill recognition or assessment services only for the issuing of nationally recognised AQF qualifications.

These arrangements are based on two key principles, which are:

- a requirement for any AQF qualifications issued by a registered training organisation or any State/Territory training authority to be recognised by any other State/Territory training authority or registered training organisation across Australia
- a system of quality assurance to register training organisations.

These arrangements commenced on 1 January 1998 and replaced a system where each training course was assessed for national accreditation, instead of registering the training organisation.

The features of the ARF are described further in the document, *Australian Recognition Framework Arrangements* (ANTA 1998b).

A focus on outputs and outcomes

A hugely important development in the Australian vocational education and training system has been in the focus placed on the outputs from and outcomes of the vocational education and training sector. This focus has accompanied the shift in Australia from a largely provider-determined training system to industry and demand-led training system.

The *outputs* from vocational education and training refer to the qualifications, skills and competencies achieved from undertaking a vocational education and training programme. Robinson (1998) described this in the following way:

> *Conceptually, the key outputs of the vocational education and training sector can be viewed in the following ways:*
>
> - *the qualifications attained by people successfully completing vocational education and training programmes that are valued by employers and widely recognised as currency in the labour market*
> - *the skills and competencies gained by individuals to improve their economic and labour market prospects and/or to improve their skills to enable them to do their current jobs better*
> - *the skills and competencies required by business to improve the bottom line of business enterprises in terms of productivity, profitability, etc. and to contribute to Australia's overall economic competitiveness.*

A deliberate distinction is being made here between the core outputs of vocational education and training (i.e. skills and qualifications) and outcomes from vocational education and training such as gaining new employment, obtaining new skills to gain promotions or new jobs of gaining new skills to increase job security in existing employment.

In recent years Australia has embarked on a process to develop nationally consistent frameworks for the treatment of vocational education and training qualifications through the adopting of the Australian Qualifications Framework (AQF) and the Australian Recognition Framework (ARF) arrangements, described earlier in the process.

Further processes are currently underway to:

- develop a set of agreed protocols to ensure nationally consistent policies are in place in each State and Territory in relation to how qualifications are awarded to vocational education and training students and trainees around Australia.
- develop a nationally consistent approach to the measurement of outputs at the sub-qualification level (referred to in Australia as 'units of competence').

The outcomes from vocational education and training (as distinct from the outputs) refer to ultimate outcomes from vocational education and training for individual students and trainees or for Australia's enterprises who rely on the vocational education and training sector to meet all or part of their skill requirements. In the case of individuals, the outcomes from vocational education and training include:

- gaining employment in cases where the student did not previously have a job
- improving job prospects through greater job security, gaining a promotion or a better job, more hours of work, moving from part-time to full-time employment, etc.
- increasing employment income as a result of gaining new skills.

In the case of employers, the outcomes from vocational education and training are:

- improvements in productivity as a result of skills gained from VET
- satisfaction that the vocational education and training system is meeting enterprise skill requirements.

The National Centre for Vocational Education Research (NCVER) conducts regular national surveys to gauge the outcomes from VET. These include:

- a Graduate Destination Survey (GDS) to measure the employer outcomes of TAFE graduates
- an Employer Satisfaction Survey (ESS) to measure the level of employer satisfaction with vocational education and training provision and to ascertain employers views about the impact of vocational education and training on enterprise productivity

The NCVER has developed a broader vocational education and training student outcomes survey that was conducted in 1999 to look at the job outcomes of all vocational education and training students, and not just graduates from TAFE in programmes of at least 200 hours in duration.

A highly developed statistical information base is an essential ingredient to developing a training system that better meets the needs of both individuals and industry clients of the sector. It is essential that such systems place as much focus on measuring the outcomes as they do on measuring student characteristics, training activity and the costs of training.

Research and evaluation to improve VET

Australia is the only country of which the authors are aware to have developed and published a national policy to govern its research and evaluation effort in vocational education and training. The policy, called *The National Research and Evaluation Strategy for Vocational Education and Training in Australia 1997-2000* (NCVER 1997c), commenced in July 1997. The policy was developed by the NCVER, in conjunction with ANTA, to:

- increase Australia's national vocational education and training research and evaluation effort
- prioritise the national vocational education and training research undertaken to improve the quality of decision making about vocational education and training by policy makers and planners, training authorities and training providers, industry bodies, employers and enterprises, students and trainees, teachers and trainers and others with an interest in the vocational education and training sector.

Of particular importance in the policy is the dissemination of research results to interested parties in addition to carrying out various research projects as part of a co-ordinated national programme of research and evaluation work. Robinson and Guthrie (1998) reported that nearly 50 research projects were undertaken or commenced in the first year of the policy, and that a further 35 projects have already been agreed to or commenced for 1998-99. National funding of over $A2.5 million per annum is directed towards the policy by ANTA and the NCVER.

The comprehensive national programme of research and evaluation has already begun to prove useful in developing strategies for continuous improvement and quality enhancement of the Australian vocational education and training sector.

It should also be noted that a wide range of information about education and training is routinely available, via a range of sources, to facilitate research, evaluation, policy formulation, planning and reporting. Of particular note are:

- As a result of co-operative arrangements among the States and Territories, Australia has an annual collection of vocational education and training data which provides information about students, courses and the outcomes of training. Regular collections of financial data (annual) and apprenticeship and traineeship data (quarterly) are also undertaken. The data collections are periodically reviewed and refined by the National Training Statistics Committee.
- Information about the Australian vocational education and training system is reported to the United Nations Organisation for Economic Co-operation and Development (OECD). However, it is often found that the OECD international reporting framework is inappropriate for Australia, because of the diversity and complexity of the Australian system.

Apprenticeship and traineeship schemes in Australia

A very significant feature of Australia's vocational education and training system is the apprenticeship system. The system has been in place in one form or another in Australia since 1805, having developed from the British system of indentured apprentices which has operated for hundreds of years.

Apprentices undertake a combination of on-the-job training in the workplace and formal, off-the-job training with a training provider. The training arrangements are covered by a legal contract which is binding on both the apprentice and his or her employer.

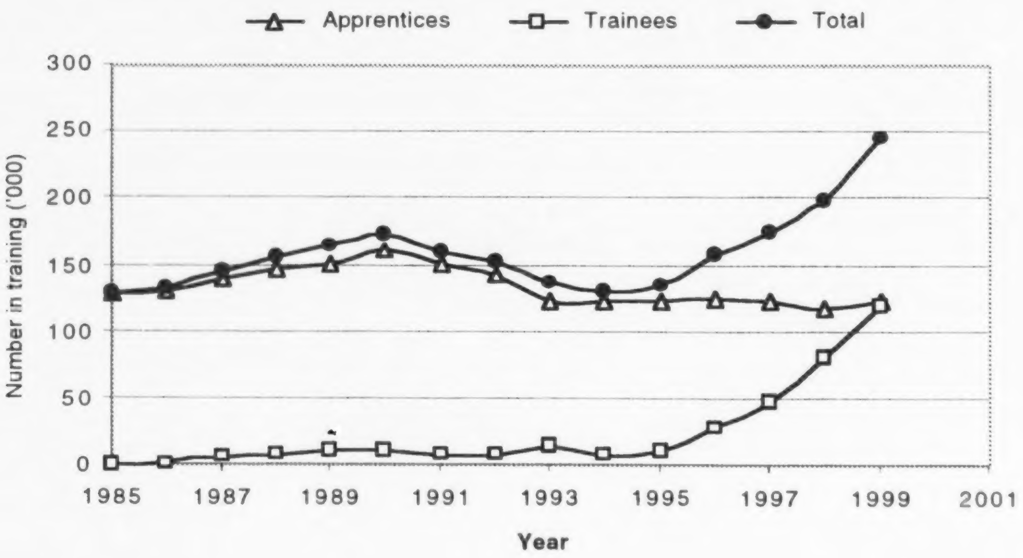
Historically, apprenticeships in Australia conventionally involved people under 20 years of age, four years in a training contract, typically with one day per week off-the-job training in a TAFE college or other accredited provider and four days per week training on-the-job. Apprenticeships were restricted to certain trade-based occupations, largely in the manufacturing, building, construction, printing and hairdressing areas. Apprentices are paid lower wages than are fully qualified and skilled tradespersons in the same field. Age barriers on traditional apprenticeships were removed in the 1980s.

In 1985 Australia introduced a new form of structured training for young people called traineeships. The intention was to expand structured training for young people to a range of new industry areas not covered by traditional apprenticeships, such as agriculture, horticulture, manufacturing utilities and transport and storage. More recently areas such as sales in retailing, tourism and hospitality have become more important. In 1993/94 other initiatives were announced, including adults being allowed to access traineeships for the first time. This contributed to the very strong growth in traineeships since 1995.

Like apprenticeships, traineeships involved one day per week, or sometimes two days, in off-the-job training. Trainees are paid lower wages than fully trained adult workers already trained and working in the same areas.

The number of apprentices and trainees in a contract of training with an employer reached record levels of over 240,000 in 1999. Such training has grown from under 130,000 in 1985 (figure 2).

Figure 2: Apprentices and trainees in training at 30 June, 1985 to 1999



Source: National Centre for Vocational Education Research Ltd

The key features of this trend are:

- Rapid growth in the four-year apprenticeships from 1985 to the early 1990s
- An equally rapid decline in apprenticeship numbers from the early to the mid 1990s, with numbers in training at 30th June each year stabilising since 1993 at around 123,000.
- A major expansion in shorter traineeships since 1995, from 12,000 to over 120,000 in 1999.

The removal of any age barriers to participation in apprenticeships and traineeships has changed the age profile of apprentices and trainees. The proportion of 15 to 19 year olds in training has fallen from 38% in 1995 to 30% in 1998, while the proportion aged 25 years or more has risen from 10% in 1995 to 25% in 1998. However, it should be noted that the actual number of young people undertaking an apprenticeship or traineeship has increased (table 19).

Table 19: Characteristics of apprentices and trainees in Australia, 1997

	Number in training ('000)		Proportion of age cohort (%)	
	1995	98	1995	98
Age group				
15 to 19 years	54.58	66.97	5.7	6.2
20 to 24 years	75.31	97.50	3.8	5.4
25 years and over	15.10	55.31	0.1	0.5
Total	144.99	219.81	0.8	1.2
Sex				
Male	119.98	158.75	1.3	1.7
Female	25.01	61.06	0.3	0.6
Persons	144.99	219.81	0.8	1.2

Source: National Centre for Vocational Education Research Ltd

Another important feature of the development of Australia's apprenticeship and traineeship system is the shift which has occurred in the type of occupations in which apprentices and trainees are engaged, particularly in the last decade.

Some of the traditional trades areas in the metal trades, manufacturing, building and electrical areas, have declined in relative importance (table 20). The shifts in the patterns of apprentice and trainee training have in large part followed changes in the occupational structure of the Australian workforce as a whole.

Table 20: Occupational categories of apprentices and trainees in Australia, 1985 and 1997.

Occupation	*Number ('000) (a)*		*Proportion (%)*	
	1985	*1997*	*1985*	*1997*
Managers and administrators	0.0	1.8	0.0	1.0
Professionals	0.0	0.2	0.0	0.1
Para-professionals	0.0	3.2	0.0	1.8
Metal trades	44.5	21.4	34.6	12.2
Electrical	18.3	16.8	14.2	9.6
Building	21.9	24.3	17.1	13.8
Printing	3.4	3.2	2.6	1.8
Vehicle trades	6.0	21.2	4.7	12.1
Food	11.0	17.1	8.6	9.8
Horticulture	(b)	3.2	(b)	1.8
Hairdressing	(b)	9.7	(b)	5.5
Clerks	0.0	13.9	0.0	7.9
Salespersons and personal services	0.0	16.8	0.0	9.6
Plant and machine operators and	0.0	2.2	0.0	1.3
Labourers and related workers	0.0	12.9	0.0	7.4
Miscellaneous/other	23.5	7.5	18.2	4.3
Total	128.6	175.4	100.0	100.0

(a) Number in training contracts on 30th June
(b) Horticulture and Hairdressing were counted in the miscellaneous category in 1995
Source: National Centre for Vocational Education Research Ltd

The most recent development of the apprenticeship and traineeship system of training in Australia was the establishment of New Apprenticeships on 1st January 1998. The New Apprenticeships system covers all former apprenticeships and traineeship arrangements, and does away with the distinction which formerly existed between apprenticeships and traineeships.

There are now no restrictions on the occupations covered. Flexible, rather than fixed amounts of on-the-job and off-the-job training can now be provided according to employer and trainee requirements. Other important features of the New Apprenticeship system include:

- 'User choice', where employers can select their own vocational education and training provider for the formal (i.e. off-the-job) component.
- The option of undertaking the formal part of the training entirely in the workplace.
- Allowing training contracts to apply to part-time as well as full-time employment situations.
- The option of commencing the training programme while still at school.
- Subsidies and incentive payments to employers to encourage them to take on New Apprentices, to encourage training at higher skill levels (as measured by the level in the Australian Qualifications Framework), and for successful completion of the training programme.

Although New Apprenticeships are an important part of the Australian vocational education and training system, and in 1999 approximately 6% of young people were employed under an apprenticeship or a traineeship, the importance of this mode of training should not be overstated. For example, in recent years the number of Australians involved in an apprenticeship or traineeship in a year is only about 20% of the number who undertake vocational education and training with providers in receipt of public funds.

The vocational education and training certification system in Australia

Students who successfully complete the requirements of a recognised course or training package qualification with a registered training organisation are entitled to a certificate confirming this. Status or credit for subjects or units of competency completed with another training provider, or through recognition of prior learning, should be taken into account when determining entitlement to a recognised qualification. In most instances the certificate is issued by the registered training organisation on application by the student.

The types and levels of recognised qualifications are defined in the Australian Qualifications Framework, as discussed previously, or may be equivalent-level qualifications for courses accredited under pre-AQF arrangements.

Students who have successfully completed one or more subjects or training-package units of competency with a registered training organisation are also entitled to formal certification of their achievement. This is usually provided in the form of a statement of attainment.

Standards for units of competency are specified in national training packages, while for subjects which form part of national courses the standards are specified in curriculum documentation. Teaching staff are required to follow these standards when assessing their students. The use of externally set examinations was once widespread in the TAFE sector (the major provider of vocational education and training) but has been largely superseded by local assessment arrangements, which may be tailored to meet the needs of students and employers while still maintaining the specified standards for competency.

Under the Australian Recognition Framework quality assurance is a responsibility of State and Territory training authorities, and quality assurance requirements are included in the criteria which each training provider must meet. Although external checking of standards is not a major feature of the certification system, feedback from employers via the regular employer satisfaction survey conducted by the National Centre for Vocational Education Research does not indicate any widespread dissatisfaction with standards or with the certification issued to students.

Accreditation of vocational education and training programmes in Australia

A fundamental feature of the Australian vocational education and training system is that training programmes which lead to the awarding of recognised qualifications must be accredited. In the past this accreditation was generally given at the State or Territory level via accreditation boards established by the State and Territory training authorities. Occasionally, training programmes were also developed and approved at a local level by an institute of technical and further education (TAFE).

Since the early 1990s, however, arrangements have been made to ensure that all courses and subjects accredited by State and Territory training authorities are available for use and formally recognised throughout the whole country. Accreditation under these arrangements was usually for a period of five years, and national courses and modules (i.e. subjects) were listed on a national register. However, these arrangements are now being replaced by a system of national training packages, which are designed to meet industry requirements and are approved at national rather than State or Territory level.

As noted previously, an important change took effect on 1 January 1998 with the introduction of arrangements which move the emphasis to the registration of training organisations (RTOs), with associated quality assurance requirements. These arrangements, in conjunction with the implementation of national training packages, will eventually replace the system where each training course was assessed for national accreditation. Moreover, it is expected that the majority of national courses will be replaced eventually by programmes structured around nationally endorsed training packages.

However, since training packages are industry-specific, not all vocational education and training activity will necessarily be covered by national training packages. In particular, many general education programmes, pre-vocational programmes and programmes which are designed as preparation for vocational education and training, may not be covered by national training packages.

In national training packages the focus of training is on outputs, specified in terms of qualifications and units of competency, which are the building blocks of qualifications. The training packages are developed under the supervision of industry training advisory boards and submitted to a national recognition body for approval. Once approved they are published and distributed by Australian Training Products.

Details of national training packages are placed on the National Training Information System (NTIS), an electronic resource which can be accessed via the internet. It includes details of the registered training organisations which are approved to conduct each training programme and issue qualifications. The NTIS replaces the former National Register of courses and modules. However, to facilitate the transition to the new arrangements the NTIS also includes listings of those national courses which are still current.

Training package qualifications and units of competency are recognised nationally. Moreover, the new arrangements enable students to move more freely among registered training organisations (RTOs), and even to undertake one part of a qualification with one RTO and the remainder with another. These possibilities are important in a country as physically large as Australia, where students or workers sometimes travel great distances to undertake their training or to take up employment.

Quality assurance is generally the responsibility of State and Territory training organisations, who have overall responsibility for the management and delivery of publicly-funded training programmes and for monitoring the issuing of recognised qualification by non-government organisations[1]. Quality assurance requirements are included in the registration requirements for all RTOs, both government and non-government.

For training providers and students, there are a number of important advantages favouring accredited programmes:

- They allow recognised qualifications or statements of attainment to be awarded, facilitating flexibility and portability.
- Public funding is only provided for accredited programmes. This is important for non-government providers who tender on a competitive basis for public funds, while for students, undertaking an accredited, publicly-funded programme generally means lower fees.
- Under the arrangements for the Goods and Services Tax (GST) which take effect on 1 July 2000, fees charged for accredited vocational education and training programmes will be exempt from the GST but non-accredited programmes will be subject to the GST.

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[1] A small number of programmes for Aboriginal and Torres Strait Islanders are funded directly by the Commonwealth Department of Education, Training and Youth Affairs and do not directly involve a State or Territory training authority.

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Finally, it should be noted that much of the training undertaken in the private sector and by employees takes the form of short, specific-purpose programmes for a particular student group. The majority of this training falls outside the arrangements for formally accredited programmes but is none-the-less important in Australia's total training effort..

Accreditation of vocational education and training providers in Australia

Accreditation of vocational education and training providers is now covered by the Australian Recognition Framework (ARF), which was implemented from 1 January 1998. Under these arrangements accreditation of both public (i.e. government) and private (i.e. non-government) providers is covered by a single framework. The arrangements are discussed in more detail in an earlier section (see 'A framework for the national recognition of vocational education and training').

Before 1998, separate arrangements existed for public and private providers of vocational education and training:

- For public providers, no formal registration or quality assurance requirements existed as these providers were established under government legislation or regulations. However, many TAFE institutes were subject to the requirements specified in performance agreements with State and Territory training authorities, and many also sought and obtained endorsement as quality-endorsed organisations under the International Standards Organisation 9000 series standards.
- Registration requirements existed for private and community providers. The specific requirements varied among the State and Territory training authorities. However, in all cases registration requirements had to be met before a provider could receive public funds.

A number of State and Territory training authorities continue to use performance agreements as a means of managing delivery by public providers and to ensure accountability. These performance agreements specify, among other things, the amount and type of vocational education and training to be delivered, the amount of money which will be paid for the delivery, and in some cases include output targets with associated payment provisions.

When private providers receive public funds to deliver training the State or Territory training authority enters into a formal contract with the provider.

For private providers, the advantages of being a registered training organisation (RTO) are:

- It allows the provider to bid for and receive public funds to deliver vocational education and training programmes.
- It allows the provider to issue nationally recognised qualifications, making the programmes offered by the provider more attractive to would-be students.
- Under the user-choice arrangements for New Apprenticeship, it allows the provider to deliver or supervise the formal component of the training of New Apprentices, and to receive payment for this service.

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[1] The term 'vocational education and training' (VET) is used in Australia. It is essentially the same as 'technical and vocational education and training' (TVET), 'vocational and technical education' (VTE) and 'vocational and technical education and training' (VTET), although some higher-level programmes which are delivered by vocational education and training providers in Australia are delivered by universities in some SEAMEO member countries.

[2] Recreation, leisure and personal enrichment programmes do not have a specifically vocational intent, but may include vocationally useful knowledge and skills and may articulate, in an informal way, with specifically vocational programmes.

[3] The material in the remainder of this chapter is reproduced, with updates and amendments, from Robinson C (Technical Director Indonesia Australia Partnership in **Skills Development Programme** and Managing Director National Centre for Vocational Education Research Adelaide, Australia) - DEVELOPING INDONESIA'S VOCATIONAL EDUCATION AND TRAINING SYSTEM: SOME IMPLICATIONS FROM THE AUSTRALIAN EXPERIENCE.

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Romulita A Cabanos-Alto, PhD, Faculty Consultant at the Colombo Plan Staff College for Technician Education (CPSC). She holds Doctor of Education and Master of Arts in Teaching Chemistry (University of the Philippines) and is responsible for conducting and coordinating training courses and consultancy projects.

Irene M Isaac, MSc, is Regional Director of the Technical Education and Skills Development Authority (TESDA), Manila, Philippines. She holds a Bachelor of Literature degree in Journalism and a Master in Business Administration degree and implements the policies of the TESDA Board, providing overall supervision of TVET programmes in the region.

Brian Knight is Manager of Data Reporting and Analysis at the National Centre for Vocational Education (NCVER). He has worked for [illegible] years in research and statistical areas in education and training, including [illegible] years as statistician and data analyst for UK national curriculum assessment trials and special projects in South Africa and Brunei.

Rebecca V Polestico, PhD in Research and Evaluation, is Head of the Research, Development and Consultancy Division at the Regional Centre for Vocational and Technical Education, SEAMEO VOCTECH, Brunei Darussalam. She manages research projects and consultancy initiatives within the scope of the SEAMEO Member Countries.

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